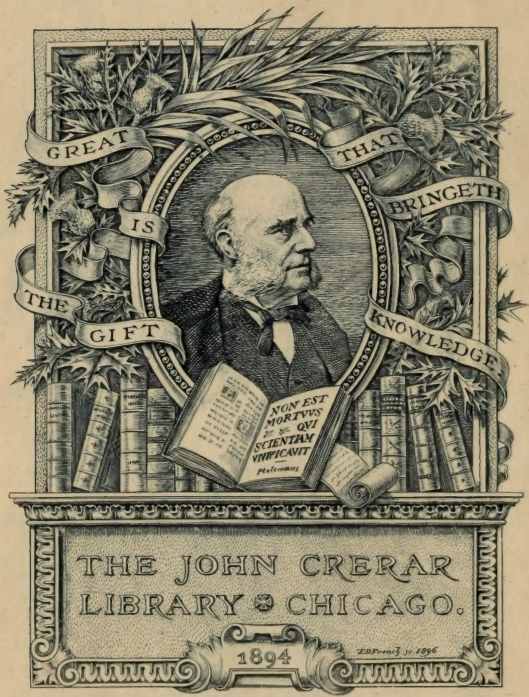
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THE COLLEGE BULLETIN

SERIES VII, No. 1
FEBRUARY, 1908.

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CATALOGUE
1907-1908

ALLEGHENY COLLEGE

FOUNDED IN 1815

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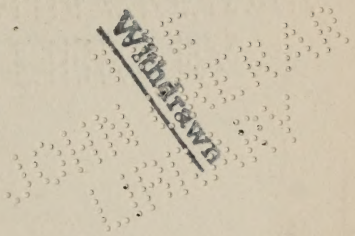

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1907-1908

MEADVILLE, PA.
1908

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES VII., No. 1.
FEBRUARY, 1908.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1907-8,

AND ANNOUNCEMENTS OF COURSES FOR 1908-9.

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CALENDAR.

1908.

April 8, Wednesday—Last day for presenting Senior Orations and Theses.

May 11, Monday—Choice of Senior Speakers.

30, Saturday—Memorial Day, a holiday.

June 5, 6, 8, 9—Senior Examinations.

8, 9, 10, 11, 12, 13—Second Term Examinations.

14, Sunday, 10:45 a.m.—Baccalaureate Sermon by President William H. Crawford.

7:45 p. m.—Annual Sermon before the Christian Associations.

15, 16, Monday and Tuesday—Entrance Examinations.

15, Monday, 7:30 p. m.—Commencement Exercises of the Preparatory School.

16, Tuesday, 2:00 p. m.—Class Day Exercises.

3:00 p. m.—Annual Meeting of the Board of Control.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

7:30 p. m.—Phi Beta Kappa Address.

9:00 p. m.—Reception by President and Mrs. Crawford.

17, Wednesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.

7:30 p. m.—Commencement Concert.

9:00 p. m.—Fraternity Banquets.

18, Thursday, 9:30 a. m.—Commencement Exercises.

SUMMER VACATION.

1908.

Sept. 15, Tuesday—First Term Begins.
14, 15, Monday and Tuesday—Entrance Examinations.
15, Tuesday—Registration of New Students.
16, Wednesday—Registration of Old Students.
17, Thursday, 8:00 a. m.—Recitations Begin.
Nov. 4, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.
26, Thursday—Thanksgiving Day a holiday.
Dec. 4, Friday—Class of Ninety Oration Contest.
18, Friday, 12:30 p. m.—Recitations Close.

CHRISTMAS RECESS.

1909.

Jan. 6, Wednesday, 8:00 a. m.—Recitations Resumed.
14, Thursday—Day of Prayer for Colleges.
20, Wednesday—Last Day for Presenting Senior Orations and Theses.
Jan. 22-29—First Term Examinations.
Jan. 29, Friday, 4:00 p. m.—First Term Ends.

Feb. 2, Tuesday—Second Term Begins.
3, Wednesday, 8:00 a. m.—Recitations Begin.
11, Thursday—Wakefield Oration Contest.
22, Monday—Washington's Birthday, a holiday. The College Dinner.
Mar. 3, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.
26, Friday, 4:00 p. m.—Recitations Close.

SPRING RECESS.

April 6, Tuesday, 8:00 a. m.—Recitations Resumed.
28, Wednesday—Last Day for Presenting Senior Orations and Theses.
May 10, Monday—Choice of Senior Speakers.
June 17, Thursday—Commencement.

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HARRY G. SAMPSON, ... Pittsburg
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CHARLES O. PETERS,
Laboratory Assistant in Chemistry.

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THE PRESIDENT — THE REGISTRAR
PROFESSOR LOCKWOOD — PROFESSOR MULFINGER
PROFESSOR COBERN

Courses of Study.

PROFESSOR DUTTON — PROFESSOR COBERN
PROFESSOR FRASER — PROFESSOR ROSS
PROFESSOR LING

Discipline.

THE PRESIDENT — PROFESSOR DUTTON
PROFESSOR ELLIOTT

Chapel Services.

PRESIDENT CRAWFORD — PROFESSOR ELLIOTT

College Organizations.

PROFESSOR BREED — PROFESSOR AKERS
PROFESSOR SMITH

Library.

PROFESSOR SMITH — PROFESSOR MULFINGER
PROFESSOR ELLIOTT

Graduate Instruction.

PROFESSOR LOCKWOOD — PROFESSOR BREED

Athletics and Gymnasium.

PROFESSOR LING — PROFESSOR BREED
PROFESSOR LEE — PROFESSOR SCHEETZ

Hulings Hall.

PROFESSOR ELLIOTT — PROFESSOR LOCKWOOD
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THE PRESIDENT — PROFESSOR AKERS
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College Book Store.

PROFESSOR AKERS — PROFESSOR LING
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Catalogue.

PROFESSOR ROSS — PROFESSOR LEE
PROFESSOR SNAVELY

DESCRIPTION OF THE COLLEGE.

Historical Sketch.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 Rev. Martin Ruter was elected to the presidency, since which time the College has been under the general patronage of the Methodist Episcopal Church. It has always been understood, however, both by the trustees of the College, and by its patrons, that the institution is to be conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

Location.

Allegheny College is situated in Meadville, Pennsylvania, on the main line of the Erie, and Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of more than eleven thousand. It is an old and well established town with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved

streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, illuminating and natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of ravines of wild and rugged beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of Botany and Geology.

Buildings and Grounds.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with granolithic walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the College.

Bentley Hall bears the name of Rev. William Bentley, D. D., of Salem, Massachusetts, who gave his valuable library to the College. The corner stone was laid in 1820. It consists of a central three-story build-

ing with tower, and two wings with massive pillars. The building contains the administrative offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies with their libraries.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of Rev. Martin Ruter, D. D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the departments of Mathematics and Civil Engineering. The third floor is occupied by the department of Biology. Two laboratories, an office, a store room, and a lecture room are in use.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women, and accommodates about eighty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear wing of the building contains on the fourth floor five large society halls; the first and second floors

are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full line of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892, for the departments of Physics and Chemistry. It contains an amphitheatre lecture room, seating one hundred twenty-five students, chemical and physical laboratories, and basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in form, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor are the assembly and committee rooms of the Young Men's Christian Association. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D. C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appear-

ance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. The cost of the building was $34,000. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburg, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902 at a cost of over $40,000. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and department seminar rooms. The interior appointments of the library are entirely in accord with the artistic character of the building.

The Preparatory School, completed in February,

1906, is situated on land recently acquired northeast of the main campus. It is built of grey vitrified brick and terra cotta in English school style. It contains an office, seven recitation rooms, an assembly room, a gymnasium, a chemical laboratory, society rooms, and cloak rooms. The equipment throughout is new. The cost of the building was twenty thousand dollars.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., amounting to nearly $60,000, provision has been made for a College Commons for young men. The building is now approaching completion and will be ready for use in the early spring. It is constructed of brick with light terra cotta trimmings and tile roof. The architecture is of the Italian style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room with seats for one hundred fifty, a club dining room, and a large room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The new building will not only provide first class boarding accommodations, and at reasonble rates, but will constitute a rallying center for the young men of the college. Apart from the dining room and dormitory features of the building the club house feature will probably be one which will most appeal to the young men. The rooms provided for the Young Men's Christian Association are almost ideal. In addition to the spacious room to be used as assembly, reading, and social room there are an office for the secretary, a large committee room, and a cloak room. Just off these apartments are

the two sets of bowling alleys with shuffle board space adjoining.

Laboratories and Museum.

The Physical Laboratory. The department of Physics occupies the first floor of Wilcox Hall of Science. It comprises a large, well-lighted lecture room, a store room, a general laboratory, two dark rooms, and the professor's office and department library. The lecture room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. A number of new pieces of apparatus have recently been received, with which the laboratory is being fitted for the study of mechanics and heat. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratory. The department of Chemistry occupies the entire second floor of Wilcox Hall. It contains the qualitative and quantitative laboratory, with accommodations for thirty-five students, the balance room, store room, and the professor's office and private laboratory. The laboratories are well lighted and ventilated, conveniently arranged, and well supplied with necessary apparatus and equipment. Each student's table is provided with gas and water. The department library is also located here.

The Biological and Geological Laboratories. These laboratories have recently been moved to the third floor of Ruter Hall where there is ample space and good light. The main laboratory receives the direct north light and is fitted with tables and microscopes for twenty students. In the same room there are placed a large aquarium table fitted with running water,

other tables for balanced aquaria, and cases containing the herbarium, and other material used in the laboratory work. The other half of the floor is divided into a lecture room, an office, a store room, and a smaller laboratory for advanced students. The lecture room contains cases for a collection of animals, charts, models, etc., used in lectures. The library, consisting of three hundred well selected volumes, is placed in the smaller laboratory. This room is also fitted with all needed histological, embryological, and bacteriological apparatus.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope the objective of which was made by Brashear, of Allegheny, Pa., and with a smaller instrument, with a seven and one-half inch aperture, made by Alvin Clark and Son, mounted for the special use of students. Other equipment includes a transit, a chronometer, a sextant, and a siderial clock. The clock is the gift of the children of Milton B. Goff, LL. D., in memory of their father, an alumnus and formerly professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, Ohio.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by Geo. N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute

field work in astronomy of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock completes the new equipment which will enable the department to offer work to the student which will be comparable with other observatories having a glass of like capacity.

Engineering Apparatus. In Mathematics and Engineering all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in those subjects.

The Museum embraces several distinct collections of minerals, shells, fossils, etc.

The extensive and valuable Natural History Collections are displayed on the first and third floors of Ruter Hall. The collections of minerals include more than eight thousand specimens and are especially noteworthy. There is also a series of Ward casts of fossils, which, together with a growing collection of originals forms an excellent basis for the work in Paleontology. There are three cases of shells which include several thousand species. The Zoological and Botanical collections are placed in the Biological laboratories, where they are easily accessible to students of these subjects.

It is the intention to make the study of these collections an integral part of the work in Biology and Geology.

The museum is open every Saturday, while the College is in session, from one to three p. m. At other times visitors are admitted on application to the custodian.

Library and Reading Room.

The library contains more than twenty-two thousand volumes, in addition to fifteen hundred volumes of magazines and more than eight thousand pamphlets. In addition to the general library expenditures each department has a liberal annual appropriation which provides the best and most modern technical and reference books. To these libraries and to the reference library students have free access, and thus early become familiar with the correct use of books and acquire something of the bibliographic sense. The reference library and reading room are open at convenient hours daily except Sunday. From the general stacks books may be drawn under the usual necessary regulations. The Reading Room provides for students a wide range of periodical literature, both technical and general.

The periodical list includes the following:

American Magazine.
American Naturalist.
American Historical Review.
American Journal of Sociology.
American Journal of Archaeology.
American Journal of Mathematics.
American Journal of Philology.
American Chemical Journal.
Astronomische Nachrichten.
Athenaeum.
Atlantic Monthly.
Biblical World.
Biological Bulletin.
Botanical Gazette.
Bookman.
Century.
Chautauquan.
Classical Journal.
Homiletic Review.
Independent.
Journal of Geology.
Journal of Chemical Society.
Journal of Philosophy.
Library Journal.
Literary Digest.
Missionary Review.
McClure's Magazine.
Mind.
Modern Philology.
Nation.
North American Review.
Nineteenth Century.
Outlook.
Outing.
Popular Science Monthly.
Physical Culture.
Reader's Guide.
Records of the Past.
Reports Palestine Exploration Fund.

Classical Philology.
Classical Review.
Contemporary Review.
Cosmopolitan.
Educational Review.
Education.
Engineering News.
Expositor.
Forum.
Fortnightly Review.
Harper's Magazine.
Harper's Weekly.
Reports Egyptian Exploration Fund.
Reports Petrie's Exploration Fund.
Reports Society of Biblical Archaeology.
Science.
Scribner's Magazine.
Scientific American and Supplement.
World To-Day.
World's Work.

In addition, the Library is supplied with a large number of daily and weekly newspapers, both religious and secular.

Each of the men's literary societies has in its own room a library of about twelve hundred well selected volumes, which may be withdrawn for home use by members.

In addition to the above libraries, students have free access to the Meadville Public Library, which has a good collection of works of general reference and literature and current fiction.

GENERAL PURPOSE.

This institution is a college not a university. It therefore does not undertake to fit the student to enter any profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is upon this principle that the curricula are based. For the first two years all subjects are prescribed. These studies are such as to have been found to be best adapted to secure symmetrical development. For the last two years a wide range of electives is offered enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for such professions.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. The training of a college does not teach a man how to do business successfully, but it does prepare him to learn any business rapidly, and to attain large success, if he has the requisite talent.

COURSES OF STUDY.

The College offers three courses of study leading to the degree of Bachelor of Arts and two leading to the degree of Bachelor of Science. The entrance requirements for all courses are equal in amount and substantially equivalent in character. The requirements in English, Mathematics, History, and Science are the same for all courses. Work in two foreign languages is required in all courses, but for the courses leading to the degree of Bachelor of Science, advanced work in Mathematics, Biology, Chemistry, or Physics may be substituted for part of one language. The entrance requirements for all courses are given in detail on the following pages.

The Bachelor of Arts Courses.

1. **The Classical Course** closely adheres to the ideal of the old college course, founded upon thorough work in the ancient languages, English, and History, with enough Mathematics and Science to insure symmetrical mental development, and with a wide range of electives, enabling a student to do special work in favorite lines.

2. **The Latin and Modern Language Course** is identical in purpose and matter with the Classical Course except that modern languages are substituted for Greek.

3. **The Latin-Scientific Course** includes a wide range of scientific work, together with a liberal pro-

portion of culture studies. It is adapted to the needs of those students who desire a course based upon the humanities, leading to the degree of Bachelor of Arts, but laying particular stress upon scientific subjects.

The Bachelor of Science Courses.

1. **The Scientific Course** emphasizes particularly mathematical and scientific studies, and furnishes a well-rounded equipment for further scientific studies or for the numerous new pursuits opened by modern invention and science.

2. **The Civil Engineering Course** is intended for those who desire to fit themselves for some branch of civil engineering work. It is adapted to the needs both of those who will go immediately into practical work and of those who will pursue advanced technical studies.

Special Students.

Persons desiring to pursue studies in the College are, as a rule, required to be prepared to enter the Freshman class as candidates for some one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the Faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

REQUIREMENTS FOR ADMISSION.

All subjects required for admission to any of the courses of study are arranged in Groups, which will be found described in detail on the following pages. In all of the groups other authors and other works than those specified will be accepted if fully equivalent in quantity and character.

The particular groups required for admission to each of the several courses will be found designated on pages 33 and 34.

Groups.

I. ENGLISH.—1. *Reading and Practice.* A limited number of books are assigned for reading. The candidate is required to present evidence of a general knowledge of the subject-matter of these books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and calls for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified to by his instructor, containing compositions or other written work done in connection with the reading of books. In preparation for this part of the requirement it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set apart for the examination will be:—

In 1908—Shakspere's Macbeth and The Merchant of Venice;

Addison's The Sir Roger de Coverley Papers in The Spectator; Irving's Life of Goldsmith; Coleridge's The Ancient Mariner; Scott's Ivanhoe and The Lady of the Lake; Tennyson's Gareth and Lynette, Lancelot and Elaine, and The Passing of Arthur; Lowell's The Vision of Sir Launfal; George Eliot's Silas Marner.

In 1909, 1910, 1911—Group 1 (two books to be selected), Shakspere's As You Like It, Henry V., Julius Caesar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected), Bacon's Essays; Bunyan's Pilgrim's Progress, Part I.; the Sir Roger de Coverly Papers; Franklin's Autobiography.

Group 3 (one book to be selected), Chaucer's Prologue; Selections from Spenser's Faerie Queene; Pope's Rape of the Lock; Goldsmith's Deserted Village; Palgrave's Golden Treasury (First Series), Books II. and III., with special attention to Dryden, Collins, Gray, Cooper, and Burns.

Group 4 (two books to be selected), Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe and Quentin Durward; Hawthorne's The House of Seven Gables; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; Dicken's A Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group 5 (two books to be selected), Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, and The English Mail-Coach; Carlyle's Heroes and Hero-Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group 6 (two books to be selected), Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV., with special attention to Wordsworth, Shelley, and Keats; Macaulay's Lays of Ancient Rome; Poe's Poems (selected); Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Browning's Poems (selected).

2. *Study and Practice.* A smaller number of books are assigned for more careful study. The examination upon these books covers subject-matter, form, and structure, and

also tests the candidate's ability to express his knowledge with clearness and accuracy. In addition, the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination will be:—

In 1908—Shakspere's Julius Caesar; Milton's L'Allegro, Il Penseroso, Comus, and Lycidas; Burke's Speech on Conciliation with America; Macaulay's Essay on Milton and Life of Johnson.

In 1909, 1910, 1911—Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

II.—MATHEMATICS. (*a*) *Elementary Algebra.*—Fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

The text used should be such a book as Tanner's Elementary Algebra.

(*b*) *Plane Geometry.*—The general properties of plane rectilinear figures, similar polygons, areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

(*c*) *Solid Geometry.*—The relations of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

The text used in geometry should be the equivalent of Beman and Smith's Geometry or Phillips and Fisher's Geometry.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

III. LATIN.—Grammar. The inflections; syntax of nouns and verbs; general sentence structure, including conditional and relative sentences, indirect discourse, and the subjunctive. Prose composition of detached sentences or connected passages based on the texts read. Caesar, Gallic War, four books. Cicero, seven orations (the Manilian Law to count as two). Vergil, Aeneid, six books. The Roman method of pronunciation is used.

Ordinarily the time spent should not be less than five hour recitations weekly for three full school years.

IV. GREEK.—Grammar. The inflections of nouns and verbs; the principles of the syntax of nouns and verbs; the structure of sentences in general, with particular regard to relative and conditional sentences and to indirect discourse. Prose composition, adapted to test the student's knowledge of grammatical constructions and based on the texts read.

Xenophon: The first four books of the Anabasis and the first two books of the Hellenika. The first three books of Homer's Iliad may be offered instead of the Hellenika.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

V. GERMAN.—Joynes-Meissner Grammar completed; translation of four hundred pages of modern German prose and one classic drama; practice in conversation.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

VI. FRENCH.—A thorough knowledge of French grammar; ability to read French prose and simple poetry; ability to translate easy passages of English into French; ability to write French from dictation. Students are expected to have read at least five hundred pages of French from at least two well-known modern authors, but no amount of reading will be accepted in place of a thorough knowledge of the grammar. As French is the language of the class-room, it is essential that candidates for admission should have some practice in French conversation.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

VII. HISTORY.—United States, the equivalent of Montgomery's Leading Facts of American History. Eastern Nations and Greece, the equivalent of Botsford's History of Greece. Rome, the equivalent of Botsford's History of Rome. Civil Government, the equivalent of Fiske's Civil Government.

VIII. SCIENCE.—Physical Geography, Gilbert and Brigham. Physiology, Colton. Physics, Millikan and Gale, with experiments.

More extended work in one or two of the above subjects will be accepted in place of shorter courses in the three. Elementary Biology or Chemistry will be accepted in place of one of the subjects.

Groups Required for Admission.

For admission to the several courses the following groups are required:

Classical Course, I., II., III., IV., VII., VIII.

For Group IV. the student may offer Group V. or Group VI. In that case he will pursue the study of Greek for four years in his college course.

Latin and Modern Language Course, I., II., III., VII., VIII., and V. or VI.

For Group V. or VI. the student may offer Group IV. In that case he will take both German and French in his college course—two years of the former and one year of the latter.

Latin-Scientific Course, I., II., III., VII., VIII., and IV. or V. or VI.

Scientific Course, I., II., III., VII., VIII., and V. or VI.

For Group III. an equivalent amount of work in one modern language may be offered; or work in a modern language equivalent to two-thirds of the Group, and one of the following subjects:

1. Mathematics, including College Algebra, Plane and Spherical Trigonometry.
2. Chemistry.
3. Biology—(Zoology, or Botany, or both).
4. Physics.

The time spent must have been not less than five hour recitations weekly for a full school year. If 2 or 3 or 4 is offered, laboratory work must have formed an important part of the work, and laboratory note books and other evidence of the work done, must be presented, all properly certified to by the teacher.

Civil Engineering Course. The requirements are the same as for the Scientific Course.

Admission with Conditions.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the Freshman Class conditionally, but not if the sum of their deficiencies exceeds a half year's work, nor if in the judgment of the Registration Committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter and will be given an opportunity to remove their deficiencies in the Preparatory School. Under certain fixed restrictions credit may be obtained at entrance for work done in college subjects and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

All admission conditions must be removed before the beginning of the Sophomore year.

Entrance Examinations.

Examinations for admission are held on Monday and

Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the First Term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in place of examinations in all subjects.

Admission by Certificate.

Certificates for all the work required for admission will be received from approved schools. But students entering by certificate are considered as on trial until the completion of the mid-year examinations, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to be placed on the approved list are invited to address the President.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should also bring with him all laboratory note-books, exercise books, mounted specimens, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismission will be required from those who have been members of other colleges.

COURSES OF INSTRUCTION
BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as specially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

Astronomy.

The courses in Astronomy have two objects in view. Course I. is a general descriptive course, designed to give the student a comprehensive view of the science, and to acquaint him with the history of the growth of the universe, and the laws which govern its members. It also gives the student an opportunity to study the members of the solar system, the moon, star clusters, and nebulae, with the nine-inch equatorial in the Newton Observatory. Course II. is practical, and is intended primarily for engineering students.

COURSE I.—General Descriptive Astronomy. A study of the earth and its relations to the other members of the solar system; the laws which govern the phenomena of the solar system; and a general descriptive outline of the heavenly bodies.

First term, three hours.

COURSE II. — Field Astronomy. Determination of time, latitude, and longitude, by the transit and sextant. Open to

those who have completed Mathematics I., Astronomy I., and the first term of Physics I.

Second term, two hours.

COURSE III. — Spherical and Practical Astronomy. For advanced students. The theory of observations and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have had Mathematics I. and II., Physics I. and II., and Astronomy I.

Throughout the year, three to five hours.

Biology.

It is the aim of this department, on the one hand, to give the student a general knowledge of the fundamental facts and principles of Biology; on the other hand, to familiarize him with the methods of investigation in this science as a preparation for advanced work and original research. Courses I., II., III., and IV., are adapted to meet the needs of a general college training. Courses V. and VI. are intended for those who expect to become professional biologists, science teachers in high schools, or physicians. Practical work in the laboratory forms a valuable part of the training of each course.

COURSE I.—Elementary Zoology. A comprehensive course in which a survey of the whole field of Zoology is given. The course is planned to meet the needs of those who do not have the opportunity to pursue the subject further, but at the same time it serves as an introduction to the more advanced courses. The laboratory work consists of the study of the external morphology of a series of typical animals, histology, development of the starfish, etc. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

First term, four hours.

COURSE I A.—Repetition of Course I.

Second term, four hours.

COURSE II.—Elementary Botany. A course in Botany similar to the course in Zoology outlined above except that more attention is given to ecology. The laboratory work consists of the study of a series of typical plants—Spirogyra, Moulds, Mosses, etc. This course forms the second part of Course I. and should be taken the same year. Lectures and recitations two or three hours a week, laboratory work three times a week.

Second term, four hours.

COURSE III.—Advanced Zoology. Habits and structure of animals. The laboratory work of this course consists of the careful dissection of type forms of animals. During the first term those Invertebrates which illustrate the development of Vertebrates are studied. The second term is devoted to the Vertebrates. Lectures and recitations one hour a week, laboratory work four hours a week. Elective for all who have completed Course I.

Given in 1908-9.

Throughout the year, three hours.

COURSE IV.—Advanced Botany. First term, plant morphology and physiology. Second term, special morphology of certain groups of the plants. Lectures and recitations one hour a week, laboratory work four hours a week. Elective for all who have completed Course II.

Throughout the year, three hours.

Given in 1909-10.

COURSE V.—Vertebrate Histology. Training in the preparation of tissues for examination under the microscope. Each student prepares at least one hundred slides of vertebrate tissues which are later studied and described. This course is especially valuable for teachers or for those intending to study medicine. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course III.

First term, four hours.

COURSE VI.—Vertebrate Embryology. A study of the development of the chick up to the end of the third day. Most of the slides studied are furnished to the students, but each student is required to prepare whole mounts and several sets of serial sections. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course V.

Second term, four hours.

Additional Courses.— Special work in Entomology, Sanitary Biology, or additional work in Courses V. and VI. will be given when there is a demand for the work.

Chemistry.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I.—General Inorganic Chemistry. This course concerns itself with the fundamental principles upon which the science is based. The non-metals and metalloids, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives especial attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text book: Smith's General Inorganic Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

First term, four hours.

COURSE II.—General Inorganic Chemistry. A continuation of Course I. The metals or base-forming elements and their compounds are studied. This course is introductory to Course III. Lectures and laboratory work as in Course I.

Second term, four hours.

COURSE III.—Qualitative Analysis.—Bases and Acids. The student is required to work through a system of preliminary analytical reactions. The more intimate knowledge of the elements and their compounds thus gained, enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc. receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. This course includes a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course II., or its equivalent.

Throughout the year, three hours.

COURSE IV.—Quantitative Analysis.—The aim of this course is to provide a thorough knowledge of the principles of gravimetric and volumetric analysis as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement. All laboratory work is supplemented by lectures. Gravimetric methods, together with a brief course in Electrolytic Methods of Analysis. Open to those who have completed Course III., or its equivalent.

First term, three hours.

COURSE V.—Quantitative Analysis. Volumetric methods.

Second term, three hours.

COURSE VI.—Gas Analysis. This course is offered because of the analysist's frequent need of this kind of training. It

deals with the density of gases, with the volumetric and barometric methods of determining the composition of various gases, and with many modern practical applications of gasometric apparatus. Lectures and laboratory work eight hours a week for one term. Open to students who have completed, or are taking, Course V.

First or second term, four hours.

COURSE VII.—Organic Chemistry. The hydro-carbons of the paraffin and benzine series, and their derivatives, are studied. Lectures and recitations three hours a week. Open to those who have completed, or are taking, Course VI.

Throughout the year, three hours.

COURSE VIII.—Organic Preparations. This is a laboratory course involving methods for the preparation and purification of a number of typical organic compounds. The properties, reactions, and relations of these compounds are then studied in detail. Six hours of laboratory work a week. Open to students who have completed, or are taking, Course VII.

Throughout the year, three hours.

COURSE IX.—History and Development of Chemical Theory. Elementary Physical Chemistry. This course endeavors to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparations of theses. Open to students who have completed Courses I. and II.

Throughout the year, one hour.

COURSE X. — Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Two lines of work are open to the student: (a) The analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke and coal, and water; (b) the analysis of those substances essentially organic in nature, as foods, blood,

milk, and the detection of adulterants. A special course in toxicological analysis is offered to students preparing for the study of medicine. Chiefly laboratory work, eight hours per week.

Throughout the year, four hours.

Economics.

Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are made familiar with the accepted principles of the science and are given a practical acquaintance with the complex modern economic organization. Encouragement is also offered to individual research, leading to possible future specialization. Lectures, papers, and comparative examination of various authorities constitute the method of instruction.

COURSE I.—Principles of Economics. Introductory survey of industrial history; Production and Distribution, compassing the accepted elements of the science. The text used is Saeger's Economics, and required readings are assigned in Marshall's Principles of Economics and in the Austrian authorities.

First term, three hours.

COURSE II.—Applied Economics. This is a continuation of Course I. and is a detailed examination of the economic principles applied in trusts, labor, tariff, taxation, and finance. Social economics as presented in Wright's Practical Sociology is included. Lectures, conferences, papers, and individual investigations are the methods of instruction.

Second term, three hours.

COURSE III.—Economic Theories. History of the development of economic thought, including a study of the leading principles of the science as propounded in Adam Smith, Ricardo, Mill, Senior Menger, Weser, Bohm, Bawark, Walker,

and Clark. The seminar method is used. Open to a limited number of those who have completed Courses I. and II.

First term, two hours.

COURSE IV. — Transportation. A course of lectures on the American Railway—a study of railway economics and the problems of government regulation. An extensive use is made of the Inter-State Commerce Commission findings and national industrial data. Open to advanced students.

Second term, two hours.

Engineering.

The instruction in this department covers the technical subjects that lie at the basis of engineering work. Constant use is made of instruments and much of the work consists of actual field work. With the exception of Course I. the subjects are open only to students in the Civil Engineering Course.

COURSE I. — Surveying, with level, transit, and compass. Methods of determining areas. Laying out and dividing land; city surveying; plotting and topographical drawing.

Second term, three hours.

COURSE II. — Railroad Engineering. This course includes a reconnaissance, preliminary and location surveys, and estimates for a line of about one mile in length through as difficult a country as is usually encountered. Plots and working drawings.

First term, three hours.

Since Engineering I. and II. consist largely of field work, students taking them must be careful to arrange their work in such a way as to leave their afternoons free for such practical work.

COURSE III.—Highway Engineering. Methods of constructing Macadam, Telford, gravel, and earth roads; wood, stone, brick, and asphalt pavements for cities; and the methods of maintaining country roads and city pavements.

Strength and Resistance of Materials. Foundations on land, on piles, and under water. The building of stone, brick, and concrete masonry. Masonry dams, retaining walls, bridge abutments and piers, culverts, arches, and sewers.

Throughout the year, three hours.

COURSE IV.—Bridges and Roofs. Including analytical and graphical determination of the stresses in bridges and roofs together with a study of actual structures. Designs of a simple roof truss and of a simple highway bridge with working drawings.

Throughout the year, four hours.

English Bible.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I.—A General Introduction to the English Bible. This course takes up the history of the Hebrew, Greek, and English Bibles, and the history of the Hebrew people as told by themselves. It then passes on to a study of the different types of literature to be found in the Old and New Testaments. Each type is studied as a whole from both the historical and the literary points of view, after which examples of each are taken up for more detailed study. The course is an introduction to the more elaborate courses that follow. It is made up chiefly of lectures and reference work, and, since it forms a part of English I., each student is required to keep carefully written

note-books, which are at intervals examined by the instructor in English.

Throughout the year, two hours.

COURSE II.—New Testament History and Literature. Stress is here laid on the importance of understanding the political, social, and religious background of the New Testament. To that end the Maccabean and Roman periods of Jewish history are carefully studied. The New Testament literature is treated from the standpoint of its relation to the development of church life and thought rather than from the point of view of literary form.

Throughout the year, two hours.

Given in 1909-10.

COURSE III.—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Syria and Palestine from the earliest times down to 165 B. C. is first studied. The Old Testament literature is then taken up in the order of its historic development, and its relation to the life, thought, and external history of Israel is brought out. This course and the preceding one aim to give a comprehensive grasp of biblical history and literature.

Given in 1908-9.

Throughout the year, three hours.

English Language and Literature.

The aim of this department is to give the student such thorough instruction in the writing of English as will make his language the instrument in his hand for the easy, idiomatic, and energetic expression of his thought; to train him, both by theory and by practice, for natural and effective public address; to acquaint him with the essential facts in the development of the English language and literature, and with the great authors who have created that literature; and, finally, to render him sensitive to the literary and aesthetic values of life. Rigorous and painstaking habits of

scholarship are constantly inculcated; but the student is never allowed to forget that literature is vital—that it draws its subject-matter and its inspiration from life, and in turn transmutes the crude and imperfect forms of life into beauty and character.

COURSE I.—The Elements of Rhetoric and collateral reading. The chief purpose of this course is to train the student in the use of easy, idiomatic English. It is believed that successful instruction in rhetoric depends not so much upon precept as upon example and practice; so the student is encouraged to write freely upon subjects that appeal to him, and that spring naturally from the interests and activities of his daily life. The instructor corrects each paper in detail, and makes appointments with each student for private consultation. The instruction is made extremely flexible, and freshness and variety of method are constantly sought.

Throughout the year, one hour.

Public Speaking. One hour weekly is devoted to Course I. in Public Speaking.

English Bible as literature. This work is described under English Bible I.

The above three subjects are scheduled together as English I., and are to be taken at the same time.

Throughout the year, four hours.

COURSE II.—Advanced Rhetoric. A careful study of the four great forms of discourse, Narration, Description, Exposition, and Persuasion. The method of instruction is both critical and constructive. Lectures, text-book, and class discussion. Fortnightly themes are required; and provision is made for private consultation with the instructor.

First term, three hours.

COURSE III.—Introduction to English Literature. 1. An outline history of the development of English literature. 2. Collateral reading. 3. The study and interpretation, in class, of Shakspere's Hamlet, Milton's Minor Poems, and Pope's

Rape of the Lock. Oral recitation, lectures, class discussion, and written tests.

Second term, three hours.

COURSE IV.—English Poetry from 1789 to 1832. Copious readings from the poetry of Burns, Wordsworth, Scott, Byron, Shelley, and Keats. At the beginning of the year, several lectures are devoted to the setting forth of the historical, social, religious, and literary conditions that gave rise to the literature under consideration. The constant aim is to arouse in the mind of the student an intelligent enthusiasm for the great poetry of the period; and, while holding him to accurate and diligent scholarship, to show him how life and literature interpenetrate.

Open to those who have completed Courses I., II., and III.

Throughout the year, three hours.

Given in 1908-9.

COURSE V.—The Victorian Period of English Literature. Landor, Carlyle, Tennyson, Arnold, Ruskin, and Browning. Conducted in the same manner as is Course IV., with which it alternates.

Throughout the year, three hours.

Given in 1909-10.

COURSE VI.—Elements of Literary Criticism. Winchester's Principles of Literary Criticism. A systematic inquiry into the essential elements of literature, and a detailed consideration of the various forms of literature. A considerable amount of illustrative reading is expected, and the student is required to test two or three classic productions by a practical application of the principles of criticism.

Open to those who have taken Course IV. or Course V., and to a limited number who have taken Course III.

First term, two hours.

Given in 1908-9.

COURSE VII.—American Literature. Outlines of its development. Lectures upon representative authors. The critical

study and interpretation of masterpieces. Appreciations and essays by members of the class.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1908-9.

COURSE VIII.—**Prose Fiction.** Bliss Perry's A Study of Prose Fiction. The novel, the romance, and the short story. Studies in the structure and significance of these popular forms of modern English fiction. Illustrative readings and carefully prepared papers.

Elective under the same conditions as Course VI.

First term, two hours.

Given in 1909-10.

COURSE IX.—**Shakspere.** Analytic and interpretative studies of four plays of Shakspere, As You Like It, Othello, King Lear, and The Tempest. A careful reading of Dowden's Shakspere Primer will be required in connection with this course.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1909-10.

COURSE X.—**Anglo-Saxon.** Old-English Grammar. Reading of selections in prose and verse from Bright's Anglo-Saxon Reader.

Elective for all who have completed Courses II. and III.

First term, three hours.

COURSE XI.—**Chaucer.** Middle English forms and syntax. The Canterbury Tales and minor poems.

Elective for all who have completed Courses II. and III.

Second term, three hours.

French Language and Literature.

It is the aim of the courses in this subject to give to the student (1) an accurate knowledge of the language of the present time both as written and spoken;

(2) appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as above outlined is carried on by means of recitations, the writing of prose and essays, the hearing of lectures in French, and by collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class-room is conducted in French, and the phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I.—Elementary French. Fraser and Squair's Grammar is used as a reference book. Oral and written exercises. Dictation. Reading of such easy prose as Guerber's Contes; Halévy, L' Abbé Constantin; De La Brète, Mon Oncle et Mon Curé. Memorizing selected fables of La Fontaine.

Throughout the year, four hours.

COURSE II.—Elementary French Continued. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III.—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, Pascal, Bossuet, Fénelon, Mme. de Sevigné.

Throughout the year, three hours.

Given in 1908-9.

COURSE IV.—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire,

Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, André Chénier.

Throughout the year, three hours.

Given in 1909-10.

COURSE V.—French Literature in the Nineteenth Century. A study of the principal authors of this period. Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Leconte de Lisle, Sainte-Beuve, Balzac, with a brief survey of contemporary writers.

Throughout the year, three hours.

Given in 1908-9.

COURSE VI.—Lyric Poetry of the Nineteenth Century. In this course the different schools of poetry will be discussed and copious extracts will be read from representative poets, such as Lamartine, Victor Hugo, Alfred de Musset, Alfred de Vigny, Théophile Gautier, Leconte de Lisle, Sully Prudhomme, François Coppée.

Open to those who have completed Course IV. or Course V.

First term, two hours.

COURSE VII.—The Theatre in the Nineteenth Century. In this course the development of the theatre during the period will be studied in detail. Dramas of such representative authors as Victor Hugo, Scribe, Alexandre Dumas, Augier, Sardou, Rostand, Meilhac, and Halévy, will be read and discussed.

Open to those who have completed Course IV. or Course V.

Second term, two hours.

Geology.

The courses in Geology are eminently general culture courses, explaining as they do so many common phenomena and leading the student to take a greater interest in natural objects. The class work is supplemented by practical work in the field, museum, and laboratory.

COURSE I.—Structural and Dynamic Geology as illustrated by the region about Meadville. The field work consists of a number of excursions (usually six) to points of interest in the immediate vicinity. Recitations three hours a week. Open to those who have completed an elementary course in Chemistry.

First term, three hours.

COURSE II.—Historical Geology and Paleontology. Chiefly the history and stratigraphy of the North American continent. During this term the laboratory work consists of the study of a series of typical fossils. Recitations two hours a week, laboratory work two hours a week. Open to those who have completed Biology I. and Geology I.

Second term, three hours.

COURSE III.—Mineralogy, Crystallography, descriptive mineralogy, and determination of minerals. Open to those who have completed Geology I., and who have completed or who are taking Chemistry III. Recitations and laboratory work. The right is reserved to withdraw this course if necessary.

Second term, three hours.

German Language and Literature.

The methods employed in the first two years of the course are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accurate and intelligent pronunciation is insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. Translation from German into English is employed at the outset, but is discarded when it is no longer needed as a test of the understanding of the text. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German lan-

guage in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been founded among the students of the college. Membership is open to those who have studied German for one or more years.

COURSE I.—Elementary German. Spanhoofd's Lehrbuch der deutschen Sprache; Huss's German Reader; Storm's Immensee; Baumbach's Im Zwielicht, and Heyse's L'Arrabbiata. The aim of the course is to enable the student to read and understand accurately, without translation, German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German. Prose composition based on the texts read is a part of this work.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II.—Intermediate German. First Term. — Schiller's Wilhelm Tell; Lessing's Minna von Barnhelm; Goethe's Hermann und Dorothea begun. German composition once a week.

Second Term.—Hermann und Dorothea completed; a modern novel; Sudermann's Frau Sorge, or Freytag's Soll und Haben. Reproductive translation into German and independent themes are a part of the work.

Open to students who have presented two years of German for admission to college or who have completed Course I.

Throughout the year, four hours.

COURSE III.—Advanced German. First Term.—Select Readings from the novels of Freytag, Keller, Scheffel, Sudermann, and Frensen. The history of German literature during the nineteenth century, with its origin in the eighteenth, will be studied, especially the history of the novel.

Second Term.—Schiller's Wallenstein and Thirty Years'

War. A study of the political and social background of the picture unfolded in Schiller's dramatic trilogy will be made by reading selections from his Thirty Years' War and doing other reference work in history. Lectures and reports on the life and literary activities of Schiller are a prominent feature of this course. Open to those who have completed Course II.

Throughout the year, three hours.

COURSE IV.—Goethe's Life and Works. First Term.—Goethe's Life and Works. Goethe's autobiography, in connection with which several of the earlier productions of the author, especially Die Leiden des jungen Werther, will be read; then the classical dramas, Egmont, Iphigenie auf Tauris, and Torquato Tasso, will be taken up.

Second Term.—Goethe's Faust, Part I., with an outline of Part II., and a history of the Faust legend, will be studied in lectures and recitations.

The reading and interpretation of Goethe's work's will be supplemented by a course of lectures on the classic period of German literature. Open to those who have completed Course III.

Throughout the year, two hours.

Given in 1908-9.

COURSE V.—Outline History of German Literature. The aim of this course is to acquaint the student with the most important movements in the history of German literary life, from the earliest times to the twentieth century, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Koch's Geschichte der deutschen Litteratur will be used as a text-book, which will be supplemented by lectures in German and reports on assigned readings.

Open to those who have completed Course III., and to others by permission.

Throughout the year, one hour.

Course V. must be taken in connection with Course IV. or Couse VI.

COURSE VI.—German Romantic School and Modern German Drama. First Term.—Romantic School, with reference to its social and literary aspects.

Second Term.—The study of German life in the nineteenth century, as reflected in the dramas of Heinrich von Kleist, Grillparzer, Hebbel, Anzengruber, Wildenbruch, Sudermann, and Hauptmann.

Open to students who have completed Course III.

Throughout the year, two hours.

Given in 1909-10.

Graphics.

The work in this department is eminently practical. The actual needs of engineers are kept in mind, and the work is adapted thereto. The courses are open only to students in the Civil Engineering Course.

COURSE I.—Free Hand Drawing. Elementary Drawing, including a thorough training of the hand and eye in outline drawing, shading, and lettering.

First term, four hours.

COURSE II.—The use and care of instruments, projection drawing, isometrical and cabinet drawing, and the principles of shading and tinting.

Second term, four hours.

COURSE III.—Descriptive Geometry, as applied to the representation by projection of all Geometrical Magnitudes, the intersections and tangencies of developable, double curved, and warped surfaces. Spherical projections, shades and shadows, and linear perspective.

Throughout the year, three hours.

COURSE IV.—Topographical and Machine Drawing, including tracing and blue-printing.

First term, three hours.

COURSE V.—Architectural Drawing. Working drawings of a frame building.

Second term, three hours.

Greek Language and Literature.

The aim of the department is to lead the students to the acquistion of a living knowledge of the Greek language as an introduction to a practical acquaintance with Greek life and thought. It is believed that by careful and accurate work in the first years of the language the student can gain such knowledge as will enable him to read widely and independently. The courses laid down are such as are thought to be best adapted to that end. The work is varied, and an attempt is made to give a view of all departments of the literature. The department possesses a growing collection of casts of antique sculpture, painted vases and other antiquities, about a thousand photographs, and several hundred lantern slides.

A voluntary class is formed each year for the purpose of special drill in sight reading.

COURSE I.—Homer, The Iliad or the Odyssey. Detailed study of two or three books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Xenophon, Memorabilia. The more interesting and important passages are carefully read in class. A weekly exercise in composition is based on the Greek text read. The aim is to develop a vocabulary and an accurate knowledge of Greek Syntax.

Throughout the year, four hours.

COURSE II.—Plato, Apology and Crito and selections from Phaedo. Outline of Greek Philosophy.

Lysias and Demosthenes.—Selected orations from one or both of these authors are read in connection with a detailed study of the historical periods.

Greek Literature, text book and lectures. Assigned readings on special topics in Greek history and literature. Reading at sight.

This course is made the basis of the study of historical Greek life and civilization.

Throughout the year, three hours.

COURSE III A.—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Medea, and Aristophanes' The Frogs. Individual investigation of special topics. The course is made not only a study of the rise and development of the Greek Drama, but also a study of literary evolution.

Throughout the year, three hours.

B. Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings in Greek, English, and German.

Throughout the year, three hours.

One of these courses is given each year. In 1907-8 A. was given. Open to all who have completed Course II.

COURSE IV A.—Classical Archaeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean Civilization. Greek Vase Painting. Greek Architecture.

Throughout the year, two hours.

Given in 1908-9.

B.—Classical Archaeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1909-10.

Courses IVA. and IVB. are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required. The courses are open to those who have completed Course I., and, under

some limitation, may be elected by students having no knowledge of Greek.

COURSE V.—Greek Testament. A minute and critical study of a portion of the New Testament to insure a familiar and accurate knowledge of vocabulary, syntax, and idioms, followed by more rapid reading to develop ease and rapidity in grasping the thought of the original. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1908-9.

COURSE VI.—Greek Literature. A careful survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Given in 1909-10.

COURSE VII.—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. It may be elected by students having no knowledge of Greek.

Throughout the year, two hours.

Given in 1909-10.

Hebrew.

COURSE I.—Davidson's Hebrew Grammar, completed. Twelve or more chapters in Genesis read.

Throughout the year, four hours.

This course is given in alternate years.
Given in 1909-10.

History.

The aim of the department is to give that knowledge of the facts and the philosophy of history which

belongs to a liberal education. The subjects in periods and countries are planned also to train for university work or to equip for preparation to enter law or journalism. The evolution of European civilization from its sources and the growth and the influence of Anglo-Saxon institutions are the general theme of the work. History is presented as a real educative process. The department has the appropriate library authorities for the several courses, and source materials are freely used. Abstracts, maps, essays, and outlines are required in the class work. The method of instruction is a combination of lectures and textbook. Course I. is required for admission to the succeeding courses.

COURSE I.—European History. The period covered extends from the Teutonic migration to the French Revolution. The first term is occupied with mediaeval institutions and the transition to Modern Europe. Robinson's European Readings and Bemont and Monod's Mediaeval Europe are the texts for class guidance. Required readings in standard authorities are assigned. The second term is devoted to the growth of nationalities and the religious and political struggles for balance of power. Lodge's Modern Europe furnishes the outline of the work.

Throughout the year, three hours.

COURSE II.—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher. This course alternates with Course III.

Throughout the year, three hours.

Given in 1909-10.

COURSE III.—French Revolution and Nineteenth Century. The first term follows the causes and the course of the French Revolution and concludes with the Napoleonic Era. A lecture course with references to many authorities, Stephen's Revolutionary Europe and Rose's Napoleon being required.

The second term examines Europe in the Nineteenth Century after the Congress of Vienna, studying the formation of the German and the Italian unity and the continental triumph of liberalism. Seignobos' Europe and Fyffe's Modern Europe are used as outlines of the work.

Throughout the year, three hours.

Given in 1908-9.

COURSE IV.—History of England. The work extends from the Teutonic origins to the Nineteenth Century. Lectures, collateral readings, and text-books. Gardiner's Student's History and Green's Short History of the English People furnish the outline and references are required in the constitutional histories of Stubbs, Hallam, and Taswell and Langmead, and in the works of Froude, Gardiner, and Lecky. This course alternates with Course V.

Throughout the year, two hours.

Given in 1908-9.

COURSE V.—The Political and Constitutional History of the United States, from 1781 to 1861. The sources are extensively used as found in the government publications, the writings and addresses of statesmen, and the contemporary interpretation of national affairs. Lectures and reports by students on assigned readings in Schouler, Henry Adams, McMaster, Gordy, Rhodes, and the American Nation Series. Monographs required of the class each term.

Throughout the year, two hours.

Given in 1909-10.

Italian Language and Literature.

COURSE I.—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as

De Amicis, Cuore; Salvatore Farina, Il Signor Io; Goldoni, Il vero Amico. Open to Juniors and Seniors.

Throughout the year, three hours.

COURSE II.—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Comedia; Petrarca, Rime Scelte.

Throughout the year, two hours.

Open to Juniors and Seniors.

Latin Language and Literature.

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman life and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and facsimiles of inscriptions and has a small collection of photographs.

The instruction is given by means of recitations, supplemented by lectures and, in the elective courses, by individual work.

COURSE I.—Cicero, De Senectute and De Amicitia.
Livy, Books XXI-XXII, or selections from Books I-XXV.
Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation. In connection with Livy is made a careful study of the geography of Spain and Italy and of the history of Rome during the Second Punic War. Attention is also directed to the literary characteristics of Livy and of his age.

Throughout the year, four hours.

COURSE II.—Horace, selected Odes and Epodes.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's literary and political life and to as much of the history of the period as sheds light on the subject matter.

Catullus, selected Odes; general discussion of Latin Lyric Poetry.

Terence, three plays. In connection with the translation of Terence, the course includes lectures on the origin and development of comedy in Rome and on the Roman Theatre. The plays are also made a basis for the investigation of syntactical problems.

Throughout the year, three hours.

COURSE III A.—Tacitus, Annals, selections from Books I-VI. **Suetonius,** Lives. The Latin texts are used as a basis for a careful study of the character of Tiberius and the upbuilding of the principate. Collateral reading on the history of the period.

Throughout the year, three hours.

B. Pliny, selected Letters. Lectures and Papers on Roman private life.

Quintilian, Institutions X. Lectures and discussions on the the origin of Roman literary forms.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed Course II.

Given in 1909-10.

COURSE IV.—History of Latin Literature. Lectures are given, alternating with illustrative readings in both Latin and English, from various authors studied. A text-book is used, with assigned work in the various manuals in the library.

This course alternates with Course III. Open to all who have completed Course II.

Throughout the year, four hours.

Not given in 1908-9.

COURSE V.—Latin Literature in English. This course consists of the lectures, text-book work, and English readings of Course IV. It may be elected by students without knowledge of Latin.

Throughout the year, two hours.

Not given in 1908-9.

COURSE VI.—Advanced Latin Composition. Practice in writing prose with careful study of syntax and idiom. Reading of a piece of Ciceronian prose as a model for style. Individual work designed primarily for those who look forward to teaching or to graduate work.

Throughout the year, two hours.

Given in 1908-9.

COURSE VII.—Roman Topography and Architecture. Lectures and reports on topography, architecture, and monuments of Rome.

Throughout the year, two hours.

Given in 1909-10.

Mathematics.

The elementary courses in mathematics, all of which are prescribed for students in engineering and sciences, are: college algebra, plane and spherical trigonometry, analytic geometry including conic sections, and differential and integral calculus. These courses may be taken in the freshman and sophomore years. They serve as a sufficient preparation for the ordinary work in physics and physical chemistry, and they mark the minimum of attainments that a teacher of mathematics in a high school or an academy should possess.

Courses III.-V. are elective and presuppose Courses I. and II.

COURSE I.—Algebra. The following topics are considered: undetermined coefficients, binomial theorem for negative

and fractional exponents, logarithms, permutations and combinations, probability, elementary treatment of determinants, and theory of equations, with special reference to the solution of numerical equations of the third and fourth degrees.

Trigonometry, plane and spherical with applications to surveying and astronomy.

Throughout the year, four hours.

COURSE II.—Analytic Geometry. The straight line, conic sections, general equation of second degree, and an introduction to geometry of three dimensions.

Calculus, the differentiation and integration of functions with the usual applications.

Throughout the year, four hours.

COURSE III.—Differential Equations, for students in engineering, mathematics, and astronomy. This course includes ordinary and partial differential equations with a few geometrical and mechanical applications. Murray's Differential Equations is used as a text.

Throughout the year, two hours.

COURSE IV.—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometrie der Lage; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1908-9.

COURSE V.—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable, following the methods of Weierstrass and Riemann.

Throughout the year, two hours.

Given in 1909-10.

Philosophy.

The aim of this department is to acquaint the student with the chief philosophic theories of the past and present, to cultivate in him the habit of critical and independent thought, and to set forth a consistent and satisfactory method of dealing with the fundamental problems of speculation.

COURSE I.—Psychology. A general introduction to the subject. A text book is used, which is supplemented by informal lectures, assigned readings, and papers on special topics.

First term, three hours.

COURSE II.—Ethics. A brief survey of the history of ethical thought is followed by an examination of the chief ethical systems of modern times, with a view of arriving at the really valid principles which underlie human conduct. These principles are then applied to the various institutions and natural relations of human life. A text book is used, supplemented by informal lectures.

Second term, three hours.

COURSE III.—History of Philosophy. A study of the chief philosophers and philosophic systems of ancient and modern times. Weber's History of Philosophy is used as a text-book. Open to all who are taking or have taken Course I.

First term, two hours.

Given in 1908-9.

COURSE IV.—Philosophy of Religion. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Courses I. and III.

Second term, two hours.

Given in 1908-9.

COURSE V.—Theory of Thought and Knowledge. This course is made up of an inquiry into the general nature and conditions of thought, a review and criticism of the traditional logic, a study of proof and the most important logical fallacies, and a critical examination of philosophic scepticism, of realism and idealism, and of apriorism and empiricism. Open to all who have taken or are taking Course I.

First term, three hours.

Given in 1909-10.

COURSE VI.—Metaphysics. This applies the conclusions reached in the preceding course to the questions relating to reality. Our chief metaphysical ideas are examined and an attempt is made to fix their meaning. These results are then applied to the construction of a consistent and valid theory of the nature of the material world and of the human soul. Open to all who have taken Courses I. and V.

Second term, three hours.

Given in 1909-10.

Physics.

This department comprises courses in theoretical and practical physics.

The aim of the instruction is to give the student a thorough knowledge of the principles and laws that govern physical phenomena, and to acquaint him with the actual operations of these principles and laws. The work is presented to the student by lectures, with experimental demonstrations, combined with recitations, and the solution of problems. In the practical work, the student performs such experiments in the laboratory as will give him a practical knowledge of the principles and laws of physics.

The first two courses are elementary and are intended primarily for general culture. The advanced courses are designed for those more especially inter-

ested in science, those who expect to teach the subject, or those who are planning to pursue engineering.

Course III. is designed for civil engineers and those anticipating electrical or mechanical engineering. It will be found of profit also to any taking an interest in applied or theoretical mathematical physics.

COURSE I.—General Physics. Mechanics, Sound, Heat, Light, Electricity, and Magnetism. A general course in which the laws, theorems, and phenomena of physics are carefully developed and presented. Lectures, experimental demonstrations, and recitations. Open to those who have completed Mathematics I.

Throughout the year, four hours.

COURSE II.—Experimental Physics. Laboratory work to supplement Course I. The student is required to determine the physical constants and to demonstrate the laws of physics.

Throughout the year, two hours.

COURSE III.—Elementary Analytic Mechanics, Statics, Kinematics, and Kinetics. Special attention is given to the application of mechanics to engineering problems. Open to those who have completed Mathematics I. and II. and Physics I. and II.

Throughout the year, two hours.

COURSE IV.—Heat.

First term, three hours.

COURSE V.—Light.

Second term, three hours.

COURSE VI.—Magnetism and Electricity.

Throughout the year, two hours.

Courses IV., V., and VI are courses in advanced theoretical and experimental work, intended to continue the work of Courses I. and II. and to prepare for graduate work. Open to those who have had Courses I. and II. and Mathematics I. and II.

COURSE VII.—Teachers' Course. A course designed for those who expect to teach Physics. Lectures and demonstrations. Especial attention will be given to a review of the fundamentals of Physics, and to the best methods of presenting them to pupils. Each student will be required to present at least one subject before the class, and to design and construct one or more pieces of appartus for laboratory or demonstration purposes. Open to those who have completed Courses I. and II.

Second term, two hours.

Political Science.

This department is open to those who have completed one year's work in History. Political theories and principles, ancient, mediaeval, and modern, are examined, as illustrated in the rise and fall of nations, and in the evolution of constitutions. In addition to the cultural worth of these investigations, it is the purpose to train for intelligent, responsible citizenship in the nation and community.

COURSE I.—Comparative Politics. This course is historical as well as comparative in method. It begins with a study of the state, its origin, development, forms, and ends, and an examination into the governments of ancient Greece and Rome and of mediaeval times. Then follows a study of the development and a comparison of the present constitutions of England, France, and Germany. The work is based on Wilson's The State, Burgess' Political Science, and Goodnow's Comparative Constitutional Law.

First term, two hours.

COURSE II.—American Administration. This is a comprehensive study of national, local, and municipal government in the United States. Constitutional Law is examined, the sources of the national constitution being traced and the development of its chief powers analyzed. The practical working of the administration in central and local control is then

studied and particular attention given to the conditions and the rule of cities. The work is based on Cooley's Constitutional Law, Bryce's American Commonwealth, and Wilcox's American City.

Second term, two hours.

Public Speaking.

The courses in public speaking are designed to train the student in the composition and delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I.—Interpretation of extracts from great public orations. Extemporaneous speaking. This course aims to develop directness, force, and ease in public address. During the first term each student is required to present an assigned passage at every recitation. During the second term fewer but longer assignments are made and more extemporaneous work is required.

Throughout the year, one hour.

COURSE II.—Argumentation. A course in debating. Study of the theory of debate. Lectures on methods of gathering and arranging material, kinds of proof, and methods of refutation. Illustrative readings from argumentative masterpieces. Brief-drawing. Extempore debate. Formal debate.

Elective for those who have completed Course I., and English II.

Second term, two hours.

COURSE III.—The Oration, its general structure and style. Illustrative readings from oratorical masterpieces. Development of oratorical themes. Practice in the writing and delivery of formal orations.

Elective for those who have completed Course I., and English II.

First term, two hours.

COURSE IV.—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. A systematic course in gesture. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation.

Elective for those who have completed Course I.

First term, two hours.

COURSE V.—A systematic study of voice culture. Lectures on how to use the voice, defects, and how to overcome them. Practical work by the student in exercises for the development of the different forms and degrees of utterance, quality, pitch, force, in their relation to voice production. This course will include dramatic readings from one of Shakspere's tragedies. Formal recitals will be held and public work required from each student.

Elective for those who have completed Course IV.

Second term, two hours.

Special work for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

Spanish Language and Literature.

COURSE I.—Elementary Spanish. Giese's First Spanish Book. Worman, First Spanish Book. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdos Doña Perfecta. Open to Juniors and Seniors.

Throughout the year, three hours.

Given in 1908-9.

COURSE II.—A study of Modern Spanish novels and dramas. Open to Juniors and Seniors.

Throughout the year, two hours.

Given in 1909-10.

Physical Training.

For Young Men.—The object of this department is to give the student growth and increase of strength;

to provide health and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours. Physical measurements and strength tests of all students are taken upon entrance and at the close of the college course and also at such other times as seem necessary. These form the basis of comparison of the students' condition and needs, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular development, or such deformities as are amenable to physical exercise.

Students will receive personal advice in reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise, consisting of Swedish work, military gymnastics, Indian club, wand, and dumb bell drills, principles of heavy gymnastics, is required of the men of the Sophomore and Freshman classes, three hours a week, from the middle of October to the middle of May. Elective work is offered the Junior and Senior classes.

For Young Women.—The aim of the work is to acquire a symmetrical development of the body as a basis for health and grace. The training is based upon Delsarte Philosophy of Expression, and the Swedish and German systems of free movements and light gymnastics. All young women are required to take the prescribed work unless excused on recommendation of the instructor.

The general work includes Indian club and dumb-

bell exercises, flexing exercises to overcome stiffness, exercises to develop control of the muscles, and all devices in training that secure freedom of bodily action.

The Gymnasium for Women is equipped with the most modern apparatus. Opportunity is offered to do individual work under the direction of the instructor in addition to the regular class exercises. In the basement of Hulings Hall there is a bowling alley for the exclusive use of young women.

REQUIRED WORK.

For graduation in any course all work specified as required must be completed, and in addition subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. The prescribed work in physical training must also be completed. In the senior year a thesis and an oration are required. But in the Scientific and the Civil Engineering courses two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

In the following tables Arabic numerals denote the number of hour recitations weekly, i. e., the number of term hours. Roman numerals refer to the courses of instruction detailed on pages 36 to 69, where may be found full description of the character of the work.

Classical Course.

FRESHMAN YEAR.

	FIRST TERM.	SECOND TERM.
Latin I.	4	4
Greek I.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
Greek II.	3	3
English II., III.	3	3
German I.	4	4
History I.	3	3

JUNIOR YEAR.

Philosophy I., II.	3	3
Elective [See Note]	11	11

SENIOR YEAR.

Elective	14	14

Note.—In the Classical Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., II., Physics I.

Latin and Modern Language Course.

FRESHMAN YEAR.

	FIRST TERM.	SECOND TERM.
Latin I.	4	4
French I. [See Note I.]	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
French II. [See Note I.]	4	4
English II., III.,	3	3
History I.	3	3
Elective [See Note II.]	3	3

JUNIOR YEAR.

Philosophy I., II.	3	3
Elective	11	11

SENIOR YEAR.

Elective	14	14

Note I.—Students that offer French instead of German for admission will take German I. and II. instead of French I. and II. as scheduled.

Note II.—In the Latin and Modern Language Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., II., Physics I.

Latin-Scientific Course.

FRESHMAN YEAR.

	FIRST TERM.	SECOND TERM.
Latin I.	4	4
Biology I., II.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Chemistry I.	4	..
English II., III.	3	3
Physics I.	4	4
French I. [See Note I.]	4	4
Elective	..	4

JUNIOR YEAR.

History I.	3	3
Philosophy I., II.	3	3
Elective [See Note II.]	9	9

SENIOR YEAR.

Elective [See Note II.]	14	14

Note I.—Students that offer French instead of German for admission will take German I. instead of French I., as scheduled.

Note II.—In the Latin-Scientific Course nine term-hours' work in Science is required in addition to what is scheduled in the required work. Choice may be made from Biology III. (or IV.), Chemistry II., III., Physics II., III., Astronomy I., III., Geology I., II.

Scientific Course.

FRESHMAN YEAR.

	FIRST TERM.	SECOND TERM.
Biology I., II.	4	4
Mathematics I.	4	4
English I.	4	4
French I. [See Note I.]	4	4

SOPHOMORE YEAR.

Chemistry I., II., or Physics I.	4	4
English II.	3	..
French II. [See Note I.]	4	4
Mathematics II.	4	4
Elective	..	3

JUNIOR YEAR.

Physics I., or Chemistry I., II.	4	4
Geology I., II.	3	3
Elective [See Note II.]	8	8

SENIOR YEAR.

Philosophy I., II.	3	3
Astronomy I.	3	..
Elective [See Note II.]	8	11

Note I.—Students that offer French for admission, but not German, will take German I. and II. instead of French I. and II. as scheduled. If both French and German are offered for admission, an advanced course in one of these languages will be taken in the Freshman year and another course in the Sophomore year.

Note II.—Two of the following courses must be taken: Biology III. (or IV.), Chemistry III., Physics II., III., or IV. and V., or VI.

Civil Engineering Course.

FRESHMAN YEAR.

	FIRST TERM.	SECOND TERM.
Mathematics I.	4	4
Graphics I., II.	4	4
English I.	4	4
French I. [See Note.]	4	4

SOPHOMORE YEAR.

Mathematics II.	4	4
Graphics III.	3	3
Engineering I.	..	3
Physics I.	4	4
Physics II.	2	2
English II.	3	..

JUNIOR YEAR.

Graphics IV., V.	3	3
Engineering II.	3	..
Engineering III.	3	3
Physics III.	2	2
Chemistry I., II.	4	4
Elective	..	3

SENIOR YEAR.

Engineering IV.	4	4
Geology I.	3	..
Astronomy I., II.	3	2
Elective	3	7

Note.—Students that offer French for admission, but not German, will take German I. instead of French I. as scheduled. If both French and German are offered for admission, an advanced course in one of these languages will be taken in the Freshman year.

List of Electives.

The following list of elective studies includes all subjects that are elective in any of the courses of study. Some of the subjects are required in one or more of the courses of study, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit for graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the courses of instruction found on pages 36 to 69.

SUBJECTS.	FIRST TERM.	SECOND TERM.
Astronomy I.	3	..
Astronomy II.	..	2
Astronomy III.	3	3
Biology I., II.	4	4
Biology III.	3	3
Biology IV.	3	3
Biology V., VI.	4	4
Chemistry I., II.	4	4
Chemistry III.	3	3
Chemistry IV., V.	4	4
Chemistry VI.	4	4
Chemistry VII.	3	3
Chemistry VIII.	3	3
Chemistry IX.	1	1
Chemistry X.	4	4
Economics I., II.	3	3
Economics III., IV.	2	2
Engineering I.	..	3
English III.	..	3
English IV.	3	3
English V.	3	3
English VI., VII.	2	2
English VIII., IX.	2	2
English X., XI.	3	3
English Bible II.	2	2
English Bible III.	3	3
French I.	4	4
French II.	4	4
French III.	3	3
French IV.	3	3
French V.	3	3
French VI., VII.	2	2
Geology I., II.	3	3
Geology III.	..	3
German II.	4	4
German III.	3	3
German IV.	2	2
German V.	1	1
German VI.	2	2

SUBJECTS.	FIRST TERM.	SECOND TERM.
Greek III.	3	3
Greek IV.	2	2
Greek V.	2	2
Greek VI.	4	4
Greek VII.	2	2
Hebrew	4	4
History I.	3	3
History II.	3	3
History III.	3	3
History IV.	2	2
History V.	2	2
Italian I.	3	3
Italian II.	2	2
Latin II.	3	3
Latin III.	3	3
Latin IV.	4	4
Latin V.	2	2
Latin VI.	2	2
Latin VII.	2	2
Mathematics II.	4	4
Mathematics III.	2	2
Mathematics IV.	3	3
Mathematics V.	2	2
Philosophy I., II.	3	3
Philosophy III., IV.	2	2
Philosophy V., VI.	3	3
Physics I.	4	4
Physics II.	2	2
Physics III.	2	2
Physics IV., V.	3	3
Physics VI.	2	2
Physics VII.	..	2
Political Science I., II.	2	2
Public Speaking II., III.	2	2
Public Speaking IV., V.	2	2
Spanish I.	3	3
Spanish II.	2	2

GENERAL INFORMATION.

College Fees.

All students pay a fee of $60 a year, one-half payable at the opening of each term. This includes incidental, library, and gymnasium fees.

Students in the Civil Engineering Course and those who elect any of the technical subjects of that course pay an additional fee of $7.50 a term.

In the laboratories the following fees are charged each term:

Astronomy II.	$ 2.00
Astronomy III.	$5.00 to 10.00
Biology I., II.	2.00
Biology III., IV.	4.00
Biology V., VI.	5.00
Chemistry I., II.	4.00
Chemistry III., IV., V., VI.	7.50
Chemistry VII.	2.50
Chemistry VIII.	10.00
Geology II., III.	2.00
Physics II., IV., V.	4.00
Physics VI.	3.50
Physics VII.	2.00

In addition breakage of material furnished is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for.

Living Expenses for Young Men.

The young men of the College board in clubs or in

private families, the latter costing about one-third more than the former. The cost of good table board is in this way reduced to from $2.25 to $3.00 a week. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	LOW.	LIBERAL.
Term fee	$ 60.00	$ 60.00
Room rent, fuel, light	27.00	45.00
Table board	80.00	108.00
Books	10.00	20.00
Total	$177.00	$233.00

To be added to these figures are laboratory fees, if the student pursues studies in which such charges are made. Students in the Civil Engineering Course pay an additional fee of $15 a year. The cost of books will vary greatly from term to term, but a fair average will fall within the limits given.

Expenses other than those enumerated depend largely on the student's tastes and habits, and the College does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more than $250 a year. This, of course, does not include traveling expenses, clothing, or luxuries. An economical student can live on $200 a year; indeed not a few students spend less than this and yet live comfortably.

A circular detailing the expenses of living in Cochran Hall will be sent on request.

Young Women.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is

given in the same subjects and by the same professors, and young women have access to all departments of the College, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The Hall is under the charge of the Dean of Women, whose influence, with that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the Hall as a college home for young women certain specific rules are essential, but it is the policy of the College to make only such regulations as will best protect the interests of those who reside there. As large a measure of self government as possible is accorded and the young women of the upper classes assume a certain amount of responsibility for the management of the Hall. All proper freedom is allowed, but applicants for admission are reminded that the purpose of residence in Hulings Hall is not primarily social but educational, and the authorities in charge reserve the right to determine what best promotes the educational welfare of the residents in the Hall. A copy of the regulations for the government of the Hall will be sent on request.

The rooms are furnished with beds, mattresses, pil-

lows, chairs, and tables. Each resident supplies the following articles: Sheets, pillow cases, bed covering, towels, and napkins.

The rates for a term, including heat and light, are as follows:

Main corridor, second and third floors	$50.00
Rear corridor, second and third floors	40.00

When two persons occupy a room the rate for each is one-half the above amount. Room rent is payable at the opening of each term. Rooms may be reserved in advance by the payment of a deposit of one-half the rate for the term. Seniors are allowed first choice of rooms. Table board is $55 a term. The House Fee is $10. The total expense for board, room, heat, light, and House Fee for the year, where two occupy a room, is $180 if the room is in the front corridor, and $170 if the room is in the rear corridor.

All Hall fees are to be paid as follows: One-half of the room rent for the year and one-half the House Fee is due at the opening of each term. Deposit fee is deducted from first payment. Board is payable in four installments as follows: $30 at the opening of the year; $30 the third Monday in November; $30 at the opening of second term; and $20 the third Monday in April.

Aid to Students.

Self-Help.—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the College or the boarding clubs. Some find in town oppor-

tunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the College to help students that help themselves.

The Lindley Endowment.—By the will of the late Miss Lucy Lindley, of Meadville, the College received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund.—Mrs. Hettie F. Ballantyne, of Pittsburg, gave to the College thirty thousand dollars in memory of her late husband. The fund is known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburg Conference, and of young men from the territory of that conference who are studying for the ministry. This fund is administered by the officers of the College Faculty on recommendation of a committee of the Conference. Application should be made to Rev. C. W. Smith, D. D., Pittsburg, Pa.

High School Scholarships.—The Board of Trustees has established forty prize scholarships of fifty dollars each, to be awarded each year to honor students in forty of the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank

during his high school course. If the class numbers more than ten, and less than twenty-five, it may go to the first or second in rank, and if there are over twenty-five in the class the scholarship may go to any one of the three highest. The amount of the scholarship is to be applied on the fees of the freshman year.

Educational Society Loans.—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. These loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by their home Quarterly Conference. The loans are made by the Society on the recommendation of the Faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the College funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

Religious Culture.

The College was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the

development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student or his parents, is also advised. Prayer meetings are held Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are largely attended.

The religious influence of the College is not in any sense sectarian, but Christian. On the rolls this year are representatives from nineteen Christian denominations.

The Adviser System.

Each student on registering is assigned to some member of the faculty, who serves throughout the year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side.

Clubs.

The Classical Club, composed of the instructors in the classical departments and about twenty-five ad-

vanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members on lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the College. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Scientific Club meets weekly to discuss abstracts of current scientific papers or to listen to the presentation of original research of some of the members. The club includes members of the faculty and students in the college who are interested in scientific work.

The German Club is an organization of students under the leadership of the professor of German that meets fortnightly for the purpose of arousing and sustaining interest in the German language as a vehicle of oral expression and of studying German life, institutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Society of Applied Science meets bi-monthly for the discussion of current scientific literature and for the discussion of original papers, submitted by the members, on the application of science to the practical affairs of life. All students in the Scientific and Civil Engineering courses are eligible to membership.

The Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parlimentary drill is afforded. Its membership consists of students who are especially interested in debate, under the guidance of representatives of the departments of English and Public Speaking.

Prizes.

In addition to essay and oration prizes offered by the literary societies, four prizes are open to competition by students of the College classes.

The Wakefield Oration Prize.—Mr. James A. Wakefield, of Pittsburg, furnishes a prize of fifty dollars, in the name of his grandfather, Rev. Samuel Wakefield, D. D., awarded in February of each year, to the young man delivering the best oration. The winner of this prize represents the College in the Tri-State Oratorical League Contest held in May.

Class of Ninety Oration Prize.—The class of '90, which numbered forty-two persons, has established a prize of forty-two dollars to be awarded annually to the young man or woman delivering the best oration at a contest held in December of each year.

Heckel Prizes in Biology.—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburg. These prizes are awarded for the best two theses written by graduate or undergraduate students upon biological subjects. The theses are presented on the first day of May and the prizes awarded the following Commencement Day.

Athletics.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all members of the College are elegible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be bona fide students taking not less than twelve hours work, must have been registered at the opening of the year in which they compete, may not have more than one condition in any preceding work or be delinquent in the current term's work, and may not receive remuneration, directly or indirectly, for their services. The College is a member of the Inter Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

Degrees.

The degree of Bachelor of Arts is conferred upon those who complete in a satisfactory manner the Classical, the Latin-Scientific, or the Latin and Modern Language Course.

The degree of Bachelor of Science is conferred upon

those who complete in a satisfactory manner the Scientific or the Civil Engineering Course.

Bachelors of Arts of this College, or of another of equal rank, may pursue, in residence, work in not more than two distinct lines of study. On the completion of a full year's work, including a satisfactory thesis, the degree of Master of Arts is conferred. Bachelors of Arts of this College may, by vote of the Faculty, be permitted to pursue this work in non-residence, but in that case at least two years must be devoted to it. A student who has completed at the end of the first term of the Senior year all requirements for the degree of Bachelor of Arts, may pursue work in residence which shall count toward the degree of Master of Arts. Such a student may complete in non-residence the remainder of his work for the Master's degree and receive the degree one year after receiving the Bachelor's degree.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the College pays a fee of five dollars for diploma.

REGISTER OF STUDENTS.

Classification.

The classification of the Catalogue is made in February of the college year, and gives the class rank for the year.

In the Senior class are included those who have completed by March 1, not less than one hundred four term-hours, of the one hundred and twenty necessary for graduation.

In the Junior Class are included those who have completed by February 1, not less than seventy term-hours.

In the Sophomore class are included those who have completed by February 1, not less than thirty-six term-hours.

In the Freshman class are included all who have been admitted to the class during the year.

The small capitals following the names indicate the course of study: C standing for Classical, LS for Latin-Scientific, L for Latin and Modern Language, S for Scientific, and E for Civil Engineering.

Graduate Students.

Candidate for the Degree of Master of Arts.

Mercill, Myrta E.....Meadville
A. B., Allegheny College. German, Mathematics.

Not Candidates for a Degree.

Adams, Katherine Moore.....Meadville
A. B., Allegheny College.

La Bounty, Francis Louis.....Ashtabula, O.
A. B., Allegheny College.

Seniors.

Andrews, Archibald Dickson L.....Meadville
Andrews, Ethel Aurelia, L.....Meadville
Andrews, Richard Parker, C.....Pittsburg
Baker, Wynona, C.....Greenville
Bash, Vera, LS.....Sewickley
Beatty, Mabel Alicia, L.....Oil City
Beebe, Josette Hilda, L.....Nanking, China
Blake, Joseph Marshall, E.....Meadville
Bond, Mary Louise, L.....Meadville
Brown, Oscar Minns, L.....Greenville
Burchard, Charles Winfield, LS.....Townville
Callahan, Richard Beatty, C.....Pleasant Unity
Cappeau, William Arthur, E.....Reibold
Colter, Thomas Archbold, L.....Meadville
Cooley, Fred Boughton, L.....Kingsville, O.
Crowe, Edward Francis, L.....Meadville
Danford, Wahnita Bernice, C.....Duquesne
Dermitt, Jane Lyster, C.....Franklin
Etter, Elizabeth Katherine, L.....East Greene
Flaugh, Frank Calvin, E.....Meadville
Fullerton, Clifford Sherman, E.....Johnsonburg
Giesey, Earle McAdams, C.....Wheeling, W. Va.
Ginn, Robert, E.....Piqua, O.
Grauel, Florence May, L.....Sharpsburg
Greer, Charles Thomas, C.....New Castle
Hart, May Esther, C.....Girard
Henry, Olga Riene, L.....Punxsutawney
Hepfinger, Lillian, L.....Warren
Houser, Otto Henry, L.....Meadville
Irvine, Francis, E.....Tidioute
King, Merle William, C.....Jamestown, N. Y.
Knapp, Frank Lyle, L.....Paulding, O.
Lick, Maxwell John, LS.....Albion
Lord, Leroy Isaiah, C.....Oakmont
Lyon, Fannie Winifred, L.....Meadville
Lyon, Richard Addison, LS.....Millvale
McGranahan, Elma, L.....Meadville

McKinney, William Lord, C.....Philadelphia
Miller, Arthur Devoe Powell, C.....Pittsburg
Miller, Karl Andrew, E.....Meadville
Neale, Nulu Nihilson, L.....Reynoldsville
Nelson, Hugh Melvin, E.....Kane
Perry, Archie C, E.....Oil City
Peters, Charles Orley, LS.....Albion
Phillips, Harriette Bell, L.....Youngstown, O.
Pratt, Joseph Dover, L.....Wampum
Reavley, Albert Addison, C.....Buffalo, N. Y.
Rist, Bess Vera, L.....Dawson
Russell, Raymond Robert, L.....Meadville
Sherwin, Louis Woodside, C.....Munhall
Siggins, Ralph C, L.....Tidioute
Smith, Frank Glenroy, E.....Erie
Sowash, Carrie Lillian, L.....Irwin
Stanley, Harry Homer, E.....Oil City
Thomas, Donald Steadman, C.....Chicora
Thomas, William Evan, L.....Tidioute
Wright, Lucy Helen, L.....Dunkirk, N. Y.

Seniors, 57

Juniors.

Aiken, William James, C.....Port Perry
Anderson, Robert William, E.....Meadville
Benedict, Lee Landseer, E.....Titusville
Bethune, Laura Edith, L.....Turtle Creek
Bullock, Hazel, L.....Cambridge Springs
Clulow, George Henry, LS.....Meadville
Cole, Wilson Griffin, C.....Glassport
Cousins, Benjamin Franklin, C.....Hadley
Cravner, William Charles, C.....Vandergrift
Deemer, Paul C., L.....Lisbon, O.
Elkin, Cortlandt Whitehead, C.....Smicksburg
Fishel, Harry McKee, C.....Pittsburg
Fitch, Jessie Frances, L.....Greenville
Fugate, Edith Lucinda, C.....DuBois
Hayward, Anna Walker, C.....Fredonia, N. Y.
Heibel, Julia Mathilda, ...Warren
Houghton, Elizabeth Gladys, L.....Ripley, N. Y.
Illingworth, Katherine May, L.....Insein, Burma
Johnson, Charles Wesley, C.....Braddock
Keister, John Ridinger, C.....Irwin
Lewis, Charles Fletcher, L.....Meadville
Lytle, Lenore Y., L.....Warren
McKinney, Florence May, C.....Corry
McKinney, John Hudson, L.....Franklin
Miller, Ralph Erskin, E.....Mt. Pleasant
Mills, Ethel Mae, L.....Waterford
Millward, William, LS.....Crafton
Nicholls, Mary Gertrude, L.....Sharon
Parsons, Percy Paul, LS.....Reynoldsville
Schaffner, Perry Blaine, C.....Pueblo
Skellie, Fred Albert, LS.....North East
Stewart, Charles Franklin, C.....Hadley
Stewart, Frank Everhart, LS.....Williamsburg
Tarr, Anna, L.....Raymore, Mo.
Thomas, Grace, C.....Union City
Wheeling, Clara, L.....Oil City

Juniors, 36

Sophomores.

Beebe, Margaret Hyde, C.....Nanking, China
Berry, Ethel Miller, L.....Sheridanville
Bly, Lena Rosalia, L.....Sherman, N. Y.
Bosworth, Helen Florence, L.....Pittsburg
Boyd, Reuben Earl, C.....Irwin
Bright, Frederick, L.....New Castle
Broadbent, John Howard, C.....Beaver
Campbell, Nellie Margaret, L.....Webster
Carpenter, Harley D., E.....Meadville
Chase, Louise, L.....Greenville
Dungan, Helen Amelia, C.....Corry
Emery, Hazel, L.....Conneautville
Ferrall, William Ello, L.....Lisbon, O.
Fixel, William Gustaf, L.....Meadville
Grandey, Joseph LeRoy, C.....Ellwood City
Greene, Mary Bertha, L.....Bellevue
Hammett, Lottie Shirley, LS.....Pittsburg
Hatch, Bernice Gertrude, L.....Union City
Howard, Grace Alberta, L.....Titusville
Jones, Julia Martha, L.....Kane
Lamb, Harold Henry, C.....Wilkinsburg
McLaughlin, Mary Elizabeth, L.....Springboro
McLean, Ellen Leone, L.....Meadville
McLean, Mabel Grace, L.....Union City
McNees, Sterling Glenn, L.....Kittanning
Martin, Chauncey James, E.....New Castle
Maxwell, Samuel Laverne, Jr., L.....Oil City
Miller, Grace Hattie, L.....Tarentum
Miner, John Lynn, LS.....Punxsutawney
Morgan, Walter Leslie, C.....Pittsburg
Mould, William Leighton, L.....New Kensington
Murray, Helen Grace, L.....Erie
Nelson, Andrew Julius, L.....Warren
Pratt, Maud Alice, L.....Reynoldsville
Riblet, Harry Gaillard, E.....Erie
Ruhling, George Hutze, E.....McKean
Scott, Bert Llewellyn, C.....Corry
Seymore, Floy Achsah, L.....Sherman, N. Y.

Shires, Cecelia Forney, L.....Mansfield, O.
Smith, Lillian La Verna, C.....Tarentum
Stockdale, Robert Clark, C.....Porter
Tillotson, Mabel Ida, L.....Corry
Vosburgh, Susanna Martina, L.....Attica, N. Y.
Ward, Grace Virginia, L.....Meadville
Weeter, Harry Montgomery, C.....New Bethlehem
White, Helen B. Cromwell, S.....Bradford
Wilds, Elmer Harrison, C.....Arnold

Sophomores, 47

Freshmen.

Abbey, Carlos, L.....Erie
Adsit, Claude Raymond, E.....Conneaut Lake
Allen, Mercedith Bunkerd, LS.....Pittsburg
Andrews, Grover Charles, C.....Conneaut Lake
Bacon, Florence Rosannah, L.....Union City
Bacon, Ruth, L.....Union City
Baker, Clarence, L.....Butler
Baker, Edna Ethel, L.....Greenville
Ballinger, Thomas Dudley, LS.....Meadville
Barkley, John William, C.....Braceville, O.
Bassett, Mollie Arnett, L.....Bridgeport, Conn.
Beaver, Eva Josephine, L.....Shenango
Birchard, Edith Elizabeth, L.....Cambridge Springs
Bond, Helen Margaret, L.....Meadville
Bortz, James Andrew, S.....Greensburg
Bossard, Lloyd Wilson, E.....Meadville
Bosworth, Mabel Elizabeth, C.....Pittsburg
Braymer, Clyde Stewart, E.....Meadville
Brown, Edwin Hazlett, L.....Meadville
Brown, Frank Boyle, LS.....Leechburg
Burt, William Wright, LS.....Zurich, Switzerland
Callahan, Frank Howard, L.....Pleasant Unity
Campbell, Edward Percy, L.....Braddock
Campbell, Sophia Bell, L.....Butler
Carroll, Donald Scott, E.....Buffalo, N. Y.
Cochran, Jesse Cleveland, LS.....Stauffer
Cole, Ralph Richard, E.....Andover, O.
Cole, Warren B., S.....Andover, O.
Cook, Stella Palmer, L.....Collinwood, O.
Copeland, Clarence Allen, S.....Meadville
Coup, Fred Thomas, E.....Meadville
Craig, William Benjamin, S.....Warren, O.
Croasmun, Dale Forrest, L.....Redclyffe
David, Bruce William, E.....Meadville
De Haven, Jessamine, L.....Coraopolis
Dennis, Cena, L.....Conneaut Lake
Dennis, Hebert Knight, L.....Meadville
De Vitis, Michael Angelo, L.....Wilmerding

Doane, Walter Arthur, E.....Meadville
Drake, Matilda Luise, L.....Cambridge Springs
Drum, Raymond Borland, L.....California
Duffy, Una Katherine, L.....Corry
Dunsmore, Archie Nevada, C.....Ford City
English, Earl Thompson, C.....Saegertown
Fife, Walter Glenn, E.....Millvale
Firestone, Harry Dewees, L.....McKeesport
Fisher, Clarence Conrad, C.....Ellwood City
Ford, Irwin Davis, LS.....Connemaugh
Fowler, Marjorie, L.....Meadville
Fox, John W., LS.....Poona, India
Frampton, James Ward, C.....Sugar Creek
French, Samuel Hampton, C.....Pittsburg
Fugate, Victor Weston, E.....DuBois
Gahan, James Reid, S.....Titusville
Garver, Elizabeth, L.....Meadville
George, Roland Jones, C.....Saegertown
Gleave, Nell May, L.....Oil City
Gould, Harley Nathan, LS.....West Springfield
Grant, Charles Clair, E.....Freeport
Grant, Weldon Roy, E.....Freeport
Hamaker, Charles Townsend, E.....Meadville
Harper, Heber Reece, C.....Avalon
Harris, Leonard Clement, LS.....Reynoldsville
Hickernell, Louis Max, LS.....Saegertown
Hillman, Gertrude, C.....Pittsburg
Hillman, Paul Mansell, C.....Pittsburg
Hines, Albert Barker, S.....Allegheny
Hubbard, Earl N., C.....Jerome, N. Y.
Jones, Claire Newton, E.....Corry
Jones, Margretta Christian, L.....Erie
Kauffman, Rose M., ...Dunkirk, N. Y.
Kelly, Ruth Root, L.....Meadville
Kennedy, Edwin Paul, LS.....Carbon Black
Kulp, Walter LeRoy, LS.....West Middlesex
Lauffer, Verna Frances, L.....Harrison City
Lewis, Martha May, L.....Knox
Loane, Lucy Evelyn, C.....Oil City

McCall, Clarence Andrew, E.....Greenville
McClellan, John Price, LS.....Irwin
McClure, Alfred Rose, E.....Sandy Lake
MacDonald, Charles Paul Davidson, LS.....Whitney
McFeaters, Edgar Cram, L.....Pittsburg
MacKenzie, Julia Jean, L.....Oil City
McKinney, Lottie Lydia, L.....Corry
Marcy, Charles Howard, E.....Cambridge Springs
Martin, Eleanor May, L.....Meadville
Mead, Gilbert Wilcox, C.....Duquesne
Mendel, Florence, L.....Meadville
Metcalf, Bessie May, C.....Jamestown, N. Y.
Mickle, Friend Lee, L.....Garland
Miller, Edna May, L.....Philipsburg
Miller, Kenneth Thompson, E.....Meadville
Mondereau, LeRoy, L.....Meadville
Moore, John Harrison, L.....Sandy Lake
Moore, Nelson Rist, E.....Vanderbilt
Morse, Melvin E., LS.....North Girard
Over, William George, L.....Kane
Parsons, Caroline, L.....Charleroi
Patterson, Allen Kennedy, C.....Meadville
Patterson, Thomas Arthur, E.....Meadville
Penman, Essex, E.....West Newton
Phillips, Roy Lavere, E.....Meadville
Piper, Joseph DuShane, C.....Derry
Plannette, Roy Warren, C.....South Sharon
Power, Lina Clancy, L.....Conneautville
Preston, Ida Florence, L.....Meadville
Price, William Horrell, C.....Irwin
Proctor, Ruth, LS.....Buffalo, N. Y.
Robinson, Jesse Squibb, C.....Boston
Ross, Robert Richard, S.....Mt. Vernon, N. Y.
Rossiter, Samuel Y., L.....Erie
Scott, Lyle C., L.....Meadville
Simonton, Francis Greer, E.....New Castle
Simpson, Viola Hume, C.....Indiana
Small, Walter Madison, L.....Cooperstown
Smith, Mary, L.....Wilkinsburg

Smock, Clifford Edmund, E.....Conneaut Lake
Snearline, Irene Elizabeth, L.....Meadville
Sprouse, Anna Camden, L.....Monessen
Stetson, Ellery Justin, LS.....Cambridge Springs
Stidger, Ivan Read, LS.....Moundsville, W. Va.
Stidger, William Leroy, LS.....Moundsville, W. Va.
Stoner, Oma Belle, L.....Scottdale
Straw, Gertrude Mae, L.....Cambridge Springs
Strickland, Alice Mae, C.....Cattaraugus, N. Y.
Swick, William Arthur, LS.....Beaver Falls
Tallant, Mabel Anna, L.....Hinsdale, N. Y.
Tordella, Joseph, E.....Meadville
Uhlinger, Roy H., S.....Burghill, O.
Urick, Alfred William, E.....Meadville
Van Hoesen, Sadie Emeline, L.....Meadville
Vogel, Charles Ellsworth, L.....Jeannette
Walters, Mary Estella, C.....Meadville
Weidler, Wellington Earl, S.....Oil City
White, Charles Mortland, L.....McKeesport
White, John Merrill, C.....California
Wilkinson, Abram, E.....Meadville
Willey, Frederick George, C.....Middletown, Va.
Willson, Myra Adele, L.....Meadville
Yost, Russell Raymond, L.....South Fork

Freshmen, 140

Special Students.

Brown, Andrew Hiram .....Washington, D. C.
Clarke, Charles Harold .....Conneaut, O.
Drake, Paul Harris.....North Easton, Mass.
Mason, Madison Charles Butler, Jr.,.....Cincinnati, O.
Taylor, Palmer Newton.....New Wilmington
Watson, Evelyn Mabel.....Eden, N. Y.

Special, 6

Summary.

	Men	Women	
Resident Graduates	1	2	3
Seniors	37	20	57
Juniors	21	15	36
Sophomores	21	26	47
Freshmen	94	46	140
Special	5	1	6
Total	179	110	289

DEGREES CONFERRED JUNE 20, 1907.

Doctor of Laws.

Carl Riemenschneider.

Doctor of Divinity.

Jesse W. Cary.
Theodore S. Henderson.
William Forney Hovis.
David Gardner Latshaw.
William Rhind Wedderspoon.

Master of Arts.

John Clayton Barkley.
William Malcolm Buzza.
Thomas Fornear.
Walter Henry Lofthouse.
Homer B. Potter.
John Emery Roberts.
Frederick Everett Stockton.
Walter Scott Trosh.
Ralph Waldo Emerson Yeany.

Bachelor of Arts.

Katherine Moore Adams.
Stanley Bright.
Henrietta Josephine Carroll.
Mary Rachel Cousins.
Jennie Mildred Fowler.
Charles A. Hartung.
Ralph Edward Irwin.
Olin Clarke Jones.
Francis Louis LaBounty.
Walter John McClintock.
William Robert Main.
Frank Purl Miller.
Florence Hester Phillips.
Frank Tenney Stockton.
Iva Berkey.
Harry Morris Brown.
Amy Valliant Courtenay.
Ethel Clarinda Fowler.
Charles Wesley Gill.
Harold H. Hull.
Hattie Olivia Johnson.
Elijah Wilson Kelley.
Mary Elizabeth Lynch.
Ralph Garfield McKinney.
Anna Eleanor Marhofer.
Wallace Herman Miner.
Samuel Worthington Robinson.
Elizabeth Mae Roberts.
Mary Ann Slater.

Bachelor of Science.

Herbert Newell Abbott.
Morse Ellis Doane.
Archibald Watson Donaldson.
Dan Arthur Gartner.
Dolph Augustus Hoch.
Ralph Blaine Kightlinger.
Benjamin Franklin Miller.
Larue Free Smith.
Floyd Porter Weber.
Clifford Jason Coggon.
J. Wilbur Evaul.
Fernando Temple Fish.
Clarence Harry Griggs.
Reuben Kenneth Horn.
George Granville Martin.
James Marsena Seybolt.
Ray Vosler.

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA.

Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1907.

From the Senior Class.

Katherine Moore Adams.
Stanley Bright.
Henrietta Josephine Carroll.
Frank Purl Miller.
Frank Tenney Stockton.

From the Alumni.

Adam Clark Hickman, LL. D., '62.
Paul Sturtevant, '99.

George A. Mulfinger, Ph. D.
Edward Rynearson.

Annual Address, June 18, 1907.

Professor Paul Shorey, Ph. D.
Subject, "The Unity of the Human Spirit."

Allegheny College Preparatory School.

This school is under the direct control and supervision of the college authorities, but has its own building and a distinct corps of instructors.

It aims to prepare students for college with a minimum expenditure of time. It is realized that many students looking forward to a college course are precluded by age or by lack of early advantages from taking a regular four years' course in academy or in high school. Young men and women of maturity can by thorough application fit themselves for college in less time than is necessary for younger and less mature persons. Earnest and capable younger pupils may also in some cases gain time in fitting for college. The work is systematic and thorough and every effort is made to enable the student to work to the best advantage. Under certain limitations students may take a part of their work in college classes. Students registered in the college also who are deficient in certain subjects can pursue these studies under skilled instruction and with every facility for accurate and thorough work.

A fine new building containing in addition to class rooms, an assembly room, society rooms, a chemical laboratory, and a gymnasium, is used by the school.

All instruction is given by college graduates, teachers of thorough preparation and successful experience.

Full particulars, including lists of the instructors and students, are found in the catalogue of the school, a copy of which will be sent on request to the Principal, Samuel B. Churchill, A. B.

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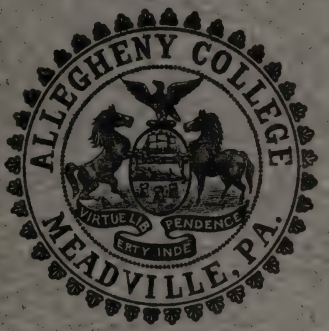
THE COLLEGE BULLETIN

SERIES VIII, No. 1
FEBRUARY, 1909

CATALOGUE
1908-1909



ALLEGHENY COLLEGE

FOUNDED IN 1815

NINETY-FOURTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1908-1909

MEADVILLE, PA.
1909

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY BY THE COLLEGE.

SERIES VIII, No. 1. FEBRUARY, 1909.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1908-9,

AND ANNOUNCEMENTS OF COURSES FOR 1909-10.

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1909

APRIL

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APRIL

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MAY

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JUNE

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CALENDAR.

1909.

April 24, Saturday—Founders' Day, a holiday.

28, Wednesday—Last day for presenting Senior Orations and Theses.

May 10, Monday—Choice of Senior Speakers.

31, Monday—Memorial Day, a holiday.

June 4, 5, 7, 8—Senior Examinations.

7, 8, 9,10, 11, 12—Second Term Examinations.

13, Sunday, 10.45 a. m.—Baccalaureate Sermon by President William H. Crawford.

7:45 p. m.—Annual Sermon before the Christian Associations.

14, 15, Monday and Tuesday—Entrance Examinations.

14, Monday, 7:30 p. m.—Commencement Exercises of the Preparatory School.

15, Tuesday, 2.00 p. m.—Class Day Exercises.

3:00 p. m.—Annual Meeting of the Conference Board.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

7:30 p. m.—Phi Beta Kappa Address.

9:00 p. m.—Reception by President and Mrs. Crawford.

16, Wednesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.

4:00 p. m.—Recital.

7:30 p. m.—Commencement Concert.

9:00 p. m.—Fraternity Banquets.

17, Thursday, 9:30 a. m.—Commencement Exercises.

SUMMER VACATION.

1909.

Sept. 21, Tuesday—First Term Begins.

20, 21, Monday and Tuesday—Entrance Examinations.

21, Tuesday—Registration of New Students.

22, Wednesday—Registration of Old Students.

23, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 3, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

25, Thursday—Thanksgiving Day, a holiday.

Dec. 3, Friday—Class of Ninety Oration Contest.

17, Friday, 12:30 p. m.—Recitations Close.

CHRISTMAS RECESS.

1910.

Jan. 5, Wednesday, 8:00 a. m.—Recitations Resumed.

12, Wednesday—Last Day for Presenting Senior Orations and Theses.

Jan. 28-Feb. 4—First Term Examinations.

Feb. 4, Friday, 4:00 p. m.—First Term Ends.

Feb. 8, Tuesday—Second Term Begins.

9, Wednesday, 8:00 a. m.—Recitations Begin.

10, Thursday—Wakefield Oratorical Contest.

22, Tuesday—Washington's Birthday, a holiday. The College Dinner.

Mar. 2, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

25, Friday, 4:00 p. m.—Recitations Close.

SPRING RECESS.

April 5, Tuesday, 8:00 a. m.—Recitations Resumed.

27, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Tuesday—Choice of Senior Speakers.

June 16, Thursday—Commencement.

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John S. Craig,	Allegheny
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A. M. Schoyer,	Pittsburg
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Simpson S. Ford,	Cleveland, O.
Robert B. Ward,	Pittsburg
C. E. Welch,	Westfield, N. Y.
Bishop James M. Thoburn, D.D., LL. D.	Meadville
Sarah B. Cochran,	Dawson

*Deceased.

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PROFESSOR LOCKWOOD — PROFESSOR MULFINGER
PROFESSOR COBERN

Courses of Study.

PROFESSOR DUTTON — PROFESSOR COBERN
PROFESSOR FRASER — PROFESSOR BREED
PROFESSOR LING

Discipline.

THE PRESIDENT — PROFESSOR DUTTON
PROFESSOR ELLIOTT

Chapel Services.

PRESIDENT CRAWFORD — PROFESSOR ELLIOTT

College Organizations.

PROFESSOR AKERS — PROFESSOR COBERN
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Library.

PROFESSOR SMITH — PROFESSOR MULFINGER
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Athletics and Gymnasium.

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DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 Rev. Martin Ruter was elected to the presidency, since which time the College has been under the general patronage of the Methodist Episcopal Church. It has always been understood, however, both by the trustees of the College, and by its patrons, that the institution is to be conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is situated in Meadville, Pennsylvania, on the main line of the Erie, and Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of more than eleven thousand. It is an old and well established town with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved

streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, illuminating and natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of ravines of wild and rugged beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of Botany and Geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with granolithic walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the College.

Bentley Hall bears the name of Rev. William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the College. The corner stone

was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies with their libraries.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of Rev. Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the departments of Mathematics and Civil Engineering. The third floor is occupied by the department of Biology. Two laboratories, an office, a store room, and a lecture room are in use.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women, and accommodates about eighty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear

wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is furnished throughout in Georgia pine. It is provided with a full line of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the departments of Physics and Chemistry. It contains an amphitheatre lecture room, seating one hundred twenty-five students, chemical and physical laboratories, and basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in form, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there is an assembly room, and also a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D.

C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. The cost of the building was $34,000. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburg, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902 at a cost of over $40,000. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and department seminar rooms. The interior

appointments of the library are entirely in accord with the artistic character of the building.

The Preparatory School, completed in February, 1906, is situated on land recently acquired northeast of the main campus. It is built of grey vitrified brick and terra cotta in English school style. It contains an office, seven recitation rooms, an assembly room, a gymnasium, a chemical laboratory, society rooms, and cloak rooms. The equipment throughout is new. The cost of the building was twenty thousand dollars.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., amounting to over sixty thousand dollars, provision has been made for a College Commons for young men. The building has been completed and is now in use. It is constructed of brick with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room with tables for one hundred fifty, a club dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first class boarding accommodations, and at reasonable rates, but constitutes a rallying center for the young men of the college. Apart from the dining room and dormitory features of the building there are rooms for the Young Men's Christian Association which are admirally adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room there are an office for the secretary, a

committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies the first floor of Wilcox Hall of Science. It comprises a large, well-lighted lecture room, a store room, a general laboratory, two dark rooms, and the professor's office and department library. The lecture room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. A number of new pieces of apparatus have recently been received, with which the laboratory is being fitted for the study of mechanics and heat. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratory. The department of Chemistry occupies the entire second floor of Wilcox Hall. It contains the qualitative and quantitative laboratory, with accommodations for thirty-five students, the balance room, store room, and the professor's office and private laboratory. The laboratories are well lighted and ventilated, conveniently arranged, and well supplied with necessary apparatus and equipment. Each student's table is provided with gas and water. The department library is also located here.

The Biological and Geological Laboratories. These laboratories have recently been moved to the third floor of Ruter Hall where there is ample space and good light. The main laboratory receives the direct north light and is fitted with tables and microscopes for twenty students. In the same room there

are placed a large aquarium table fitted with running water, other tables for balanced aquaria, and cases containing the herbarium, and other material used in the laboratory work. The other half of the floor is divided into a lecture room, an office, a store room, and a smaller laboratory for advanced students. The lecture room contains cases for a collection of animals, charts, models, etc., used in lectures. The library, consisting of three hundred well selected volumes, is placed in the smaller laboratory. This room is also fitted with all needed histological, embryological, and bacteriological apparatus.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope the objective of which was made by Brashear, of Allegheny, Pa., and with a smaller instrument, with a seven and one-half inch aperture, made by Alvin Clark and Son, mounted for the special use of students. Other equipment includes a transit, a chronometer, a sextant, and a siderial clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by Geo. N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar

attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment which will enable the department to offer work to the student that will be comparable with other observatories having a glass of like capacity.

Engineering Apparatus. In Mathematics and Engineering all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in those subjects.

The Museum embraces several distinct collections of minerals, shells, fossils, etc.

The extensive and valuable Natural History Collections are displayed on the first and third floors of Ruter Hall. The collections of minerals include more than eight thousand specimens and are especially noteworthy. There is also a series of Ward casts of fossils, which, together with a growing collection of originals, forms an excellent basis for the work in Paleontology. There are three cases of shells which include several thousand species. The Zoological and Botanical collections are placed in the Biological laboratories, where they are easily accessible to students of these subjects.

It is the intention to make the study of these collections an integral part of the work in Biology and Geology.

The museum is open every Saturday, while the College is in session, from one to three p. m. At other times visitors are admitted on application to the custodian.

LIBRARY AND READING ROOM.

The library contains more than twenty-two thousand volumes, in addition to fifteen hundred volumes of magazines and more than eight thousand pamphlets. In addition to the general library expenditures each department has a liberal annual appropriation which provides the best and most modern technical and reference books. To these libraries and to the reference library students have free access, and thus early become familiar with the correct use of books and acquire something of the bibliographic sense. The reference library and reading room are open at convenient hours daily except Sunday. From the general stacks, books may be drawn under the usual necessary regulations. The Reading Room provides for students a wide range of periodical literature, both technical and general.

The periodical list includes the following:

American Chemical Journal.
American Economist.
American Historical Review.
American Journal of Archaeology.
American Journal of Mathematics.
American Journal of Philology.
American Journal of Sociology.
American Magazine.
American Naturalist.
Astronomische Nachrichten.
Athenaeum.
Atlantic Monthly.
Biblical World.
Biological Bulletin.
Bookman.
Botanical Gazette.
Century.
Charities.
Chautauquan.
Classical Journal.
Classical Philology.
Classical Review.
Contemporary Review.
Cosmopolitan.
Cumulative Book Index.
Current Literature.
Education.
Educational Review.
Engineering News.
Expositor.
Fortnightly Review.
Forum.
Harper's Monthly.
Harper's Weekly.
Homiletic Review.
Independent.
Journal of British Chemical Society.
Journal of Geology.

Journal of Philosophy and Psychology.
Literary Digest.
L'Echo des deux Mondes.
McClure's Magazine.
Methodist Review.
Mind.
Missionary Review.
Modern Philology.
Nation.
Nineteenth Century.
North American Review.
Outing.
Outlook.
Popular Astronomy.
Popular Science Monthly.
Physical Culture.
Reader's Guide.
Records of the Past.
Reports, Egyptian Exploration Fund.
Reports, Palestine Exploration Fund.
Reports, Petrie's Exploration Fund.
Reports, Society of Biblical Archaeology.
Revue Biblique.
Science.
Scientific American and Supplement.
Scribner's Magazine.
Success.
World To-Day.
World's Work.

In addition, the Library is supplied with a large number of daily and weekly newspapers, both religious and secular.

Each of the men's literary societies has in its own room a library of about twelve hundred well selected volumes, which may be withdrawn for home use by members.

In addition to the above libraries, students have free access to the Meadville Public Library, which has a good collection of works of general reference, literature and current fiction.

GENERAL PURPOSE.

This institution is a college, not a university. It therefore does not undertake to fit the student to enter any profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. For the first two years all subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for such professions.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. The training of a college does not teach a man how to do business successfully, but it does prepare him to learn any business rapidly, and to attain large success, if he has the requisite talent.

COURSES OF STUDY.

The College offers three courses of study leading to the degree of Bachelor of Arts and two leading to the degree of Bachelor of Science. The entrance requirements for all courses are equal in amount and substantially equivalent in character. The requirements in English, Mathematics, History, and Science are the same for all courses. Work in two foreign languages is required in all courses, but for the courses leading to the degree of Bachelor of Science, advanced work in Mathematics, Biology, Chemistry, or Physics may be substituted for part of one language. The entrance requirements for all courses are given in detail on the following pages.

THE BACHELOR OF ARTS COURSES.

1. **The Classical Course** closely adheres to the ideal of the old college course, founded upon thorough work in the ancient languages, English, and History, with enough Mathematics and Science to insure symmetrical mental development. A wide range of electives enables a student to do special work in favorite lines.

2. **The Latin and Modern Language Course** is identical in purpose and matter with the Classical Course except that modern languages are substituted for Greek.

3. **The Latin-Scientific Course** includes a wide range of scientific work, together with a liberal pro-

portion of culture studies. It is adapted to the needs of those students who desire a course based on the humanities, leading to the degree of Bachelor of Arts, but laying particular stress upon scientific subjects.

THE BACHELOR OF SCIENCE COURSES.

1. **The Scientific Course** emphasizes particularly mathematical and scientific studies, and furnishes a well-rounded equipment for further scientific studies or for the numerous new pursuits opened by modern invention and science.

2. **The Civil Engineering Course** is intended for those who desire to fit themselves for some branch of civil engineering work. It is adapted to the needs, both of those who will go immediately into practical work, and of those who will pursue advanced technical studies.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the College are, as a rule, required to be prepared to enter the Freshman class as candidates for some one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the Faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

REQUIREMENTS FOR ADMISSION.

All subjects required for admission to any of the courses of study are arranged in Groups, which will be found described in detail on the following pages. In all of the groups other authors and other works than those specified will be accepted if fully equivalent in quantity and character.

The particular groups required for admission to each of the several courses will be found designated on pages 31 and 32.

GROUPS.

1. ENGLISH.—1. *Reading and Practice.* A limited number of books are assigned for reading. The candidate is required to present evidence of a general knowledge of the subject-matter of these books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and calls for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified to by his instructor, containing compositions or other written work done in connection with the reading of books. In preparation for this part of the requirement it is important that the candidate shall have been instructed in the fundamental principles of rhetoric.

The books set apart for the examination will be:—

In 1909, 1910, 1911—Group 1 (two books to be selected),

Shakspere's As You Like It, Henry V., Julius Caesar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected), Bacon's Essays; Bunyan's Pilgrim's Progress, Part I.; the Sir Roger de Coverley Papers; Franklin's Autobiography.

Group 3 (one book to be selected), Chaucer's Prologue; Selections from Spencer's Faerie Queene; Pope's Rape of the Lock; Goldsmith's Deserted Village; Palgrave's Golden Treasury (First Series), Books II. and III., with special attention to Dryden, Collins, Gray, Cooper, and Burns.

Group 4 (two books to be selected), Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe and Quentin Durward; Hawthorne's The House of Seven Gables; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; Dicken's A Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group 5 (two books to be selected), Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, and The English Mail-Coach; Carlyle's Heroes and Hero-Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group 6 (two books to be selected), Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV., with special attention to Wordsworth, Shelley, and Keats; Macaulay's Lays of Ancient Rome; Poe's Poems (selected); Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Browning's Poems (selected).

2. *Study and Practice.* A smaller number of books are assigned for more careful study. The examination based on these books covers subject-matter, form, and structure, and also tests the candidate's ability to express his knowledge with clearness and accuracy. In addition, the candidate may be required to answer questions involving the essentials of English grammar, and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination will be:—

In 1909, 1910, 1911—Shakspere's Macbeth, Milton's Lycidas, Comus L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

II. MATHEMATICS—(*a*) *Elementary Algebra.*—Fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

The text used should be such a book as Tanner's High School Algebra or Wentworth's New School Algebra.

(*b*) *Plane Geometry.*—The general properties of plane rectilinear figures, similar polygons, areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

(*c*) *Solid Geometry.*—The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

The text used in geometry should be the equivalent of Beman and Smith's Geometry or Phillips and Fisher's Geometry.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

III. LATIN.—Grammar. The inflections; syntax of nouns and verbs; general sentence structure, including conditional and relative sentences, indirect discourse, and the subjunctive. Prose composition of detached sentences or connected passages based on the texts read. Caesar, Gallic War, four books. Cicero, seven orations (the Manilian Law to count as two). Vergil, Aeneid, six books. The Roman method of pronunciation is used.

Ordinarily the time spent should not be less than five hour recitations weekly for three full school years.

IV. GREEK.—Grammar. The inflections of nouns and verbs; the principles of the syntax of nouns and verbs; the structure of sentences in general, with particular regard to relative and conditional sentences and to indirect discourse. Prose composition, adapted to test the student's knowledge of grammatical constructions and based on the texts read.

Xenophon: The first four books of the Anabasis and the first two books of the Hellenika. The first three books of Homer's Iliad may be offered instead of Hellenika.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

V. ELEMENTARY GERMAN.—A thorough knowledge of the rudiments of German grammar; ability to read prose and poetry of moderate difficulty; ability to translate simple English sentences into German; the reading of at least three hundred pages of prose; retranslation of matter based on the texts read; memorizing of at least fifteen selected poems; practice in writing and speaking German.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

ADVANCED GERMAN.—The reading of about three hundred pages of moderately difficult prose and poetry; retranslation of matter based on the works read; grammatical drill upon the less usual strong verbs; the use of articles, cases, prepositions, auxiliaries, tenses, moods, word-order, and word-formation.

Ordinarily the time spent should not be less than five hour recitations weekly for one full school year.

VI. FRENCH.—A thorough knowledge of French grammar; ability to read French prose and simple poetry; ability to translate easy passages of English into French; ability to write French from dictation. Students are expected to have read at least five hundred pages of French from at least two well-known modern authors, but no amount of reading will be accepted in place of a thorough knowledge of the grammar. As French is the language of the class-room, it is essential that candidates for admission should have some practice in French conversation.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

VII. HISTORY.—United States, the equivalent of Montgomery's Leading Facts of American History. Eastern Nations and Greece, the equivalent of Botsford's History of Greece. Rome, the equivalent of Botsford's History of Rome. Civil Government, the equivalent of Fiske's Civil Government.

VIII. SCIENCE.—Physical Geography, Gilbert and Brigham. Physiology, Colton. Physics, Millikan and Gale, with experiments.

More extended work in one or two of the above subjects will be accepted in place of shorter courses in the three. Elementary Biology or Chemistry will be accepted in place of one of the subjects.

GROUPS REQUIRED FOR ADMISSION.

For admission to the several courses the following groups are required:

Classical Course, I., II., III., IV., VII., VIII.

For Group IV. the student may offer Group V. or Group VI. In that case he will pursue the study of Greek for four years in his college course.

Latin and Modern Language Course, I., II., III., VII., VIII., and V. or VI.

For Group V. or VI. the student may offer Group IV. In that case he will take both German and French in his college course—two years of the former and one year of the latter.

Latin-Scientific Course, I., II., III., VII., VIII., and IV. or V. or VI.

Scientific Course, I., II., III., VII., VIII., and V. or VI.

For Group III. an equivalent amount of work in one modern language may be offered; or work in a modern language equivalent to two-thirds of the Group, and one of the following subjects:

1. Mathematics, including College Algebra, Plane and Spherical Trigonometry.
2. Chemistry.
3. Biology—(Zoology, or Botany, or both).
4. Physics.

The time spent must have been not less than five hour recitations weekly for a full school year. If 2 or 3 or 4 is offered, laboratory work must have formed an important part of the work, and laboratory note books and other evidence of the work done, must be presented, all properly certified to by the teacher.

Civil Engineering Course. The requirements are the same as for the Scientific Course.

ADMISSION WITH CONDITIONS.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the Freshman Class conditionally, but not if the sum of their deficiencies exceeds a half year's work, nor if in the judgment of the Registration Committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter and will be given an opportunity to remove their deficiencies in the Preparatory School. Under certain fixed restrictions, credit may be obtained at entrance for work done in college subjects and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

All admission conditions must be removed before the beginning of the Sophomore year.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday

and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the First Term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in place of examinations in all subjects.

ADMISSION BY CERTIFICATE.

Certificates for all the work required for admission will be received from approved schools. But students entering by certificate are considered as on trial until the completion of the mid-year examinations, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to be placed on the approved list are invited to address the President.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should also bring with him all laboratory note-books, exercise books, mounted specimens, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismission will be required from those who have been members of other colleges.

COURSES OF INSTRUCTION

BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as specially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy have two objects in view. Course I. is a general descriptive course, designed to give the student a comprehensive view of the science and to acquaint him with the history of the growth of the universe, and the laws which govern its members. It also gives the student an opportunity to study the members of the solar system, the moon, star clusters, and nebulae, with the nine-inch equatorial in the Newton Observatory. Course II. is practical, and is intended primarily for engineering students.

COURSE I.—General Descriptive Astronomy. A study of the earth and its relations to the other members of the solar system; the laws which govern the phenomena of the solar system; and a general descriptive outline of the heavenly bodies.

First term, three hours.

COURSE II.—Field Astronomy. Determination of time, latitude, and longitude, by the transit and sextant. Open to

those who have completed Mathematics I., Astronomy I., and the first term of Physics I.

Second term, two hours.

COURSE III.—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have had Mathematics I. and II., Physics I. and II., and Astronomy I.

Throughout the year, three to five hours.

BIOLOGY.

It is the aim of this department, on the one hand, to give the student a general knowledge of the fundamental facts and principles of Biology; on the other hand, to familiarize him with the methods of investigation in this science as a preparation for advanced work and original research. Courses I., II., III., and IV., are adapted to meet the needs of a general college training. Courses V. and VI. are intended for those who expect to become professional biologists, science teachers in high schools, or physicians. Practical work in the laboratory forms a valuable part of the training of each course.

COURSE I.—Elementary Zoology. A comprehensive course in which a survey of the whole field of Zoology is given. The course is planned to meet the needs of those who do not have the opportunity to pursue the subject further, but at the same time it serves as an introduction to the more advanced courses. The laboratory work consists of the study of the external morphology of a series of typical animals, histology, development of the starfish, etc. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

First term, four hours.

COURSE IA.—Repetition of Course I.

Second term, four hours.

COURSE II.—Elementary Botany. A course in Botany similar to the course in Zoology outlined above. The laboratory work consists of the study of a series of typical plants. This course forms the second part of Course I. and should be taken the same year. Lectures and recitations two or three hours a week, laboratory work three hours a week.

Second term, four hours.

COURSE III.—Advanced Zoology. Habits and structure of animals. The laboratory work of this course consists of the careful dissection of type forms of animals. During the first term those Invertebrates which illustrate the development of Vertebrates are studied. The second term is devoted to the Vertebrates. Lectures and recitations one hour a week, laboratory work four hours a week. Elective for all who have completed Course I. or Course IA.

Throughout the year, three hours.

COURSE IV.—Advanced Botany. First term, plant morphology and physiology. Second term, special morphology of certain groups of the plants. Lectures and recitations one hour a week, laboratory work four hours a week. Elective for all who have completed Course II.

Throughout the year, three hours.

COURSE V.—Vertebrate Histology. Training in the preparation of tissues for examination under the microscope. Each student prepares at least one hundred slides of vertebrate tissues which are later studied and described. This course is especially valuable for teachers or for those intending to study medicine. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course III.

First term, four hours.

COURSE VI.—Vertebrate Embryology. A study of the development of the chick up to the end of the third day. Many

of the slides studied are furnished to the students, but each student is required to prepare whole mounts and several sets of serial sections. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course V.

Second term, four hours.

Additional Courses.—Special work in Entomology, Sanitary Biology, or additional work in Courses V. and VI. will be given when there is a demand for the work.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I.—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals and metalloids, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives especial attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text book: Lee's Text-Book of Experimental Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

First term, four hours.

COURSE II.—General Inorganic Chemistry. A continuation of Course I. The metals or base-forming elements and their compounds are studied. This course is introductory to Course III. Lectures and laboratory work as in Course I.

Second term, four hours.

COURSE III.—Qualitative Analysis.—Bases and Acids. The student is required to work through a system of preliminary analytic reactions. The more intimate knowledge of the elements and their compounds thus gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. This course includes a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course II., or its equivalent.

Throughout the year, three hours.

COURSE IV.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric and volumetric analysis as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement. All laboratory work is supplemented by lectures. Gravimetric methods, together with a brief course in Electrolytic Methods of Analysis. Open to those who have completed Course III., or its equivalent.

First term, four hours.

COURSE V.—Quantitative Analysis. Volumetric methods.

Second term, four hours.

COURSE VI.—Gas Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the density of gases, with the volumetric and barometric methods of determining the composition of various gases, and with many modern practical applications of gasometric apparatus. Lectures and laboratory work eight hours a week for one term. Open to students who have completed, or are taking, Course V.

First or Second term, four hours.

COURSE VII.—Organic Chemistry. The hydro-carbons of the paraffine and benzine series, and their derivatives, are studied. Lectures and recitations two hours a week. Open to those who have completed, or are taking, Course VI.

Throughout the year, two hours.

COURSE VIII.—Organic Preparations. This is a laboratory course involving methods for the preparation and purification of a number of typical organic compounds. The properties, reactions, and relations of these compounds are then studied in detail. Four hours of laboratory work a week. Open to students who have completed, or are taking, Course VII.

Throughout the year, two hours.

COURSE IX.—History and Development of Chemical Theory. Elementary Physical Chemistry. This course endeavors to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparations of theses. Open to students who have completed Courses I. and II.

Throughout the year, one hour.

COURSE X.—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Two lines of work are open to the student: (a) The analysis of

those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke and coal, and water; (b) the analysis of those substances essentially organic in nature, as foods, blood, milk, and the detection of adulterants. A special course in toxicological analysis is offered to students preparing for the study of medicine. Chiefly laboratory work, eight hours per week.

Throughout the year, four hours.

ECONOMICS.

Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are made familiar with the accepted principles of the science and are given a practical acquaintance with the complex modern economic organization. Encouragement is also offered to individual research, leading to possible future specialization. Lectures, papers, and comparative examination of various authorities constitute the method of instruction.

COURSE I.—Principles of Economics. Introductory survey of industrial history, production and distribution, compassing the accepted elements of the science. The text used is Saeger's Economics, and required readings are assigned in Marshall's Principles of Economics and in the Austrian authorities.

First term, three hours.

COURSE II.—Applied Economics. This is a continuation of Course I. and is a detailed examination of the economic principles applied in trusts, labor, tariff, taxation, and finance. Social economics as presented in Wright's Practical Sociology is included. Lectures, conferences, papers, and individual investigations are the methods of instruction.

Second term, three hours.

COURSE III.—Economic Theories. History of the development of economic thought, including a study of the leading principles of the science as propounded in Adam Smith, Ricardo, Mill, Senior, Menger, Wieser, Böhm-Bawerk, Walker, and Clark. The seminar method is used. Open to a limited number of those who have completed Courses I. and II.

First term, two hours.

COURSE IV.—Transportation. A course of lectures on the American Railway—a study of railway economics and the problems of government regulation. An extensive use is made of the Inter-State Commerce Commission findings and national industrial data. Open to advanced students.

Second term, two hours.

ENGINEERING.

The instruction in this department covers the technical subjects that lie at the basis of engineering work. Constant use is made of instruments and much of the work consists of actual field work. With the exception of Course I. the subjects are open only to students in the Civil Engineering Course.

COURSE I.—Surveying, with level, transit, and compass. Methods of determining areas. Laying out and dividing land; city surveying; plotting and topographical drawing.

Second term, three hours.

COURSE II.—Railroad Engineering. This course includes a reconnaissance, preliminary and location surveys, and estimates for a line of about one mile in length through as difficult a country as is usually encountered. Plots and working drawings.

First term, three hours.

Since Engineering I. and II. consist largely of field work, students taking them must be careful to arrange their work in such a way as to leave their afternoons free for such practical work.

COURSE III.—Highway Engineering. Methods of constructing Macadam, Telford, gravel, and earth roads; wood, stone, brick, and asphalt pavements for cities; and the methods of maintaining country roads and city pavements.

Strength and Resistance of Materials. Foundations on land, on piles, and under water. The building of stone, brick, and concrete masonry. Masonry dams, retaining walls, bridge abutments and piers, culverts, arches, and sewers.

Throughout the year, three hours.

COURSE IV.—Bridges and Roofs. Including analytical and graphical determination of the stresses in bridges and roofs together with a study of actual structures. Designs of a simple roof truss and of a simple highway bridge with working drawings.

Throughout the year, four hours.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I.—A General Introduction to the English Bible. A brief sketch of the history of the Hebrew and Greek Bibles is offered and the evolution of the English Bible traced in detail and illustrated by rare original copies of the early translations. The course includes the history of the Hebrew people as told by their own chroniclers. A general survey of the different types of literature to be found in the Old and

New Testaments will be given, especial attention being directed to the picturesque biography and to the historical crises which vitally affected the development of the nation. In connection with this the geography of the Holy Land and the chronology of the historic and prophetic eras will be studied. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Moulton's "Modern Reader's Bible" will be used as text book, but much of this course will be given in lectures which each student is required to keep in carefully written note books which at intervals will be examined by the instructor in English.

Throughout the year, two hours.

COURSE II.—New Testament History and Literature. Stress is here laid on the importance of understanding the political and religious background of the life and thought embodied in the New Testament. To this end the Maccabean and Roman periods of Jewish history are carefully studied. The new light thrown upon the "Land and the Book" from recent explorations will be examined, and the social and industrial condition of the world in the times of Jesus and St. Paul noted. The relation of the Christian religion to the Old Testament religion and to the Greek and Persian mysteries will be traced. The Gospels and the Acts will be studied both from the historical and literary standpoint and the development of church life and thought will be carefully examined. The Epistolary and Apocalyptic literature will be studied in the order of its development and with constant reference to the new discoveries of contemporaneous documents. Open to those who have taken Course I.

Given in 1909-10.

Throughout the year, two hours.

COURSE III.—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to 165 B. C. is studied in connection with the life and development of the Hebrew people. The international connections with Egypt, Phoenicia, Syria, Assyria and Babylon are briefly

traced and the political, social and religious influence noted. The marked eras of the nation's growth are sharply defined from the Conquest to the Exile and the later origin of Judaism explained. The Old Testament literature is taken up in the order of its historic development and its relation to the life, thought and external history of the Israelites is brought out. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relations of the Bible to Science are here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. The latest results of Archaeology are made available. Particular attention is given to the origin, growth and character of the legal and wisdom literature and to the theology of the Prophets. A few of the greatest masterpieces, such as Job, Ecclesiastes, etc., are studied in detail.

Throughout the year, three hours.

Given in 1910-11.

ENGLISH LANGUAGE AND LITERATURE.

The aim of this department is to give the student such thorough instruction in the writing of English as will make his language the instrument in his hand for the easy, idiomatic, and energetic expression of his thought; to train him, both by theory and by practice, for natural and effective public address; to acquaint him with the essential facts in the development of the English language and literature, and with the great authors who have created that literature; and, finally, to render him sensitive to the literary and aesthetic values of life. Rigorous and painstaking habits of scholarship are constantly inculcated; but the student is never allowed to forget that literature is vital—that it draws its subject-matter and its inspiration from life, and in turn transmutes the crude and imperfect forms of life into beauty and character.

COURSE I.—The Elements of Rhetoric and collateral reading. The chief purpose of this course is to train the student in the use of easy, idiomatic English. It is believed that successful instruction in rhetoric depends not so much upon precept as upon example and practice; so the student is encouraged to write freely upon subjects that appeal to him, and that spring naturally from the interests and activities of his daily life. The instructor corrects each paper in detail, and makes appointments with each student for private consultation. The instruction is made extremely flexible, and freshness and variety of method are constantly sought.

Public Speaking. This work is described under Public Speaking I.

English Bible as literature. This work is described under English Bible I.

The above three subjects are scheduled together as English I., and are to be taken at the same time.

Throughout the year, four hours.

COURSE II.—Advanced Rhetoric. A careful study of the four great forms of discourse, Narration, Description, Exposition, and Persuasion. The method of instruction is both critical and constructive. Lectures, text-book, and class discussion. Fortnightly themes are required; and provision is made for private consultation with the instructor.

First term, three hours.

COURSE III.—Introduction to English Literature. 1. An outline history of the development of English literature. 2. Collateral reading. 3. The study and interpretation, in class, of Shakspere's Hamlet, Milton's Minor Poems, and Pope's Rape of the Lock. Oral recitation, lectures, class discussion, and written tests.

Second term, three hours.

COURSE IV.—English Poetry from 1789 to 1832. Copious readings from the poetry of Burns, Wordsworth, Scott, Byron, Shelley, and Keats. At the beginning of the year, several

lectures are devoted to the setting forth of the historical, social, religious, and literary conditions that gave rise to the literature under consideration. The constant aim is to arouse in the mind of the student an intelligent enthusiasm for the great poetry of the period; and, while holding him to accurate and diligent scholarship, to show him how life and literature interpenetrate.

Open to those who have completed Courses I., II., and III.

Throughout the year, three hours.

Given in 1910-11.

COURSE V.—The Victorian Period of English Literature. Landor, Carlyle, Tennyson, Arnold, Ruskin, and Browning. Conducted in the same manner as is Course IV., with which it alternates.

Throughout the year, three hours.

Not given in 1909-10.

COURSE VI.—Elements of Literary Criticism. Winchester's Principles of Literary Criticism. A systematic inquiry into the essential elements of literature, and a detailed consideration of the various forms of literature. A considerable amount of illustrative reading is expected, and the student is required to test two or three classic productions by a practical application of the principles of criticism.

Open to those who have taken Course IV. or Course V., and to a limited number who have taken Course III.

First term, two hours.

Given in 1910-11.

COURSE VII.—American Literature. Outlines of its development. Lectures upon representative authors. The critical study and interpretation of masterpieces. Appreciations and essays by members of the class.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1910-11.

COURSE VIII.—Prose Fiction. Bliss Perry's A Study of Prose Fiction. The novel, the romance, and the short story.

Studies in the structure and significance of these popular forms of modern English fiction. Illustrative readings and carefully prepared papers.

Elective under the same conditions as Course VI.

First term, two hours.

Not given in 1909-10.

COURSE IX.—Shakspere. Analytic and interpretative studies of nine plays of Shakspere, Midsummer Night's Dream, Henry IV. (1 and 2), As You Like It, Othello, King Lear, Macbeth, Antony and Cleopatra, The Tempest. A careful reading of Dowden's Shakspere Primer is required in connection with this course.

Elective for those who have completed Course III.

Throughout the year, two hours.

COURSE X.—Anglo-Saxon. First term: Old English Grammar. Reading of prose selections from Bright's Anglo-Saxon Reader. **Second term:** Anglo-Saxon poetry; The Battle of Maldon, the Wanderer, Beowulf.

Elective for those who have completed Course III.

Throughout the year, three hours.

COURSE XI.—Chaucer. Middle English forms and syntax. The Canterbury Tales and minor poems.

Elective for all who have completed Courses II. and III.

Second term, three hours.

Not given in 1909-10.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student (1) an accurate knowledge of the language of the present time both as written and spoken; (2) appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as above outlined is carried on by means of recitations, the writing of prose and essays, the hearing of lectures in French, and by collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French and the phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I.—Elementary French. Fraser and Squair's Grammar is used as a reference book. Oral and written exercises. Dictation. Reading of such easy prose of Guerber's Contes; Halévy, L'Abbé Constantin; De La Brète, Mon Oncle et Mon Curé. Memorizing selected fables of La Fontaine.

Throughout the year, four hours.

COURSE II.—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III.—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, Pascal, Boosuet, Fénelon, Mme. de Sévigné.

Throughout the year, three hours.

Given in 1910-11.

COURSE IV.—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, André Chénier.

Throughout the year, three hours.

Given in 1909-10.

COURSE V.—French Literature in the Nineteenth Century. A study of the principal authors of this period. Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Leconte de Lisle, Sainte-Beuve, Balzac, with a brief survey of contemporary writers.

Throughout the year, three hours.

Given in 1910-11.

COURSE VI.—Lyric Poetry of the Nineteenth Century. In this course the different schools of poetry will be discussed and copious extracts will be read from representative poets, such as Lamartine, Victor Hugo, Alfred de Musset, Alfred de Vigny, Théophile Gautier, Leconte de Lisle, Sully Prudhomme, François Coppée.

Open to those who have completed Course IV. or Course V.

First term, two hours.

COURSE VII.—The Theatre in the Nineteenth Century. In this course the development of the theatre during the period will be studied in detail. Dramas of such representative authors as Victor Hugo, Scribe, Alexandre Dumas, Augier, Sardou, Rostand, Meilhac and Halévy, will be read and discussed.

Open to those who have completed Course IV. or Course V.

Second term, two hours.

GEOLOGY.

The courses in Geology are eminently general culture courses, explaining as they do so many common phenomena and leading the student to take a greater interest in natural objects. The class work is supplemented by practical work in the field, museum, and laboratory.

COURSE I.—Structural and Dynamic Geology as illustrated by the region about Meadville. The field work consists of a number of excursions (usually six) to points of interest in the immediate vicinity. Recitations three hours a week.

Open to those who have completed an elementary course in Chemistry.

First term, three hours.

COURSE II.—Historical Geology and Paleontology. Chiefly the history and stratigraphy of the North American continent. During this term the laboratory work consists of the study of a series of typical fossils. Recitations two hours a week, laboratory work two hours a week. Open to those who have completed Biology I. and Geology I.

Second term, three hours.

COURSE III.—Mineralogy, Crystallography, descriptive mineralogy, and determination of minerals. Open to those who have completed Geology I., and who have completed or who are taking Chemistry III. Recitations and laboratory work. The right is reserved to withdraw this course if necessary.

Second term, three hours.

GERMAN LANGUAGE AND LITERATURE.

The methods employed in the first two years of the course are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accurate and intelligent pronunciation is insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. Translation from German into English is employed at the outset, but is discarded when it is no longer needed as a test of the understanding of the text. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German language in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been founded among the students of the college. Membership is open to those who have studied German for one or more years.

COURSE I.—Elementary German. Spanhoofd's Lehrbuch der Deutschen Sprache; Huss's German Reader; Storm's Immensee; Baumbach's Im Zwielicht, and Heyse's L'Arrabbiata. The aim of this course is to enable the student to read and understand accurately, without translation, German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German. Prose composition based on the texts read is a part of this work.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II.—Intermediate German. First Term.—Schiller's Wilhelm Tell; Lessing's Minna von Barnhelm; Goethe's Hermann und Dorothea begun. German composition once a week.

Second Term.—Hermann und Dorothea completed; a modern novel: Sudermann's Frau Sorge, or Freytag's Soll und Haben. Reproductive translation into German and independent themes are a part of the work.

Open to students who have presented two years of German for admission to college or who have completed Course I.

Throughout the year, four hours.

COURSE III.—Advanced German. First Term.—Select Readings from the novels of Freytag, Keller, Scheffel, Sudermann and Frensen. The history of German literature during the nineteenth century, with its origin in the eighteenth, will be studied, especially the history of the novel.

Second Term.—Schiller's Wallenstein and Thirty Years' War. A study of the political and social background of the picture unfolded in Schiller's dramatic trilogy will be made

by reading selections from his Thirty Years' War and doing other reference work in history. Lectures and reports on the life and literary activities of Schiller are a prominent feature of this course. Open to those who have completed Course II.

Throughout the year, three hours.

COURSE IV.—Goethe's Life and Works. First Term.—Goethe's autobiography, in connection with which several of the earlier productions of the author, especially Die Leiden des Jungen Werther, will be read; then the classical dramas, Egmont, Iphigenie auf Tauris, and Torquato Tasso, will be taken up.

Second Term.—Goethe's Faust, Part I., with an outline of Part II., and a history of the Faust legend, will be studied in lectures and recitations.

The reading and interpretation of Goethe's works will be supplemented by a course of lectures on the classical period of German literature. Open to those who have completed Course III.

Throughout the year, two hours.

Given in 1910-11.

COURSE V.—Outline History of German Literature. The aim of this course is to acquaint the student with the most important movements in the history of German literary life, from the earliest times to the twentieth century, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Robertson's History of German Literature will be used as a text book, which will be supplemented by lectures in German and reports on assigned readings.

Open to those who have completed Course III., and to others by permission.

Throughout the year, one hour.

Given in 1909-10.

Course V. alternates with Course VII.

COURSE VI.—Nineteenth Century Literature. First Term—

Romanticism and the romantic ideals of art and life. Readings from Kleist, Grillparzer, Heine and others. The first work read is Heine's Buch der Lieder.

Second Term.—Realism, naturalism, mysticism. Readings from Ludwig, Hebbel, Sudermann, Haupmann, Fulda, Ernst. A considerable amount of collateral reading and a monthly theme in German will be required in this course.

Open to students who have completed Course III.

Throughout the year, two hours.

Given in 1909-10.

COURSE VII.—Colloquial German. Practice in conversation and in writing German essays. R. Kron's German Daily Life and Meissner's German Conversation will be used as text-books. The course will be conducted in German.

Open to those who have had Course II.

Throughout the year, one hour.

Given in 1910-11.

GRAPHICS.

The work in this department is eminently practical. The actual needs of engineers are kept in mind, and the work is adapted thereto. The courses are open only to students in the Civil Engineering Course.

COURSE I.—Free Hand Drawing. Elementary Drawing, including a thorough training of the hand and eye in outline drawing, shading, and lettering.

First term, four hours.

COURSE II.—The use and care of instruments, projection drawing, isometrical and cabinet drawing, and the principles of shading and tinting.

Second term, four hours.

COURSE III.—Descriptive Geometry, as applied to the representation by projection of all Geometrical Magnitudes, the intersections and tangencies of developable, double

curved, and warped surfaces. Spherical projections, shades and shadows, and linear perspective.

Throughout the year, three hours.

COURSE IV.—Topographical and Machine Drawing, including tracing and blue-printing.

First term, three hours.

COURSE V.—Architectural Drawing. Working drawings of a frame building.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to lead the students to the acquisition of a living knowledge of the Greek language as an introduction to a practical acquaintance with Greek life and thought. It is believed that by careful and accurate work in the first years of the language the student can gain such knowledge as will enable him to read widely and independently. The courses laid down are such as are thought to be best adapted to that end. The work is varied, and an attempt is made to give a view of all departments of the literature. The department possesses a growing collection of casts of antique sculpture, painted vases and other antiquities, about a thousand photographs, and several hundred lantern slides.

A voluntary class is formed each year for the purpose of special drill in sight reading.

COURSE I.—Homer, The Iliad or the Odyssey. Detailed study of two or three books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Xenophon, Memorabilia. The more interesting and import-

ant passages are carefully read in class. A weekly exercise in composition is based on the Greek text read. The aim is to develop a vocabulary and an accurate knowledge of Greek Syntax.

Throughout the year, four hours.

COURSE II.—Plato, Apology and Crito and selections from Phaedo. Outline of Greek Philosophy.

Lysias and Demosthenes.—Selected orations from one or both of these authors are read in connection with a detailed study of the historic periods.

Greek Literature, text book and lectures. Assigned readings on special topics in Greek history and literature. Reading at sight.

This course is made the basis of the study of historical Greek life and civilization.

Throughout the year, three hours.

COURSE III A.—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Medea, and Aristophanes' The Frogs. Individual investigation of special topics. The course is made not only a study of the rise and development of the Greek Drama, but also a study of literary evolution.

Throughout the year, three hours.

COURSE IIIB.—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings in Greek, English, and German.

Throughout the year, three hours.

One of these courses is given each year. In 1908-9 B. was given. Open to all who have completed Course II.

COURSE IV A.—Classical Archaeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean Civilization. Greek Vase Painting. Greek Architecture.

Throughout the year, two hours.

Given in 1908-9.

COURSE IVB.—Classical Archaeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1909-10.

Courses IVA. and IVB. are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required. The courses are open to those who have completed Course I., and, under some limitation may be elected by students having no knowledge of Greek.

COURSE V.—Greek Testament. A minute and critical study of a portion of the New Testament to insure a familiar and accurate knowledge of vocabulary, syntax, and idioms, followed by more rapid reading to develop ease and rapidity in grasping the thought of the original. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1908-9.

COURSE VI.—Greek Literature. A careful survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Given in 1909-10.

COURSE VII.—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. It may be elected by students having no knowledge of Greek.

Throughout the year, two hours.

Given in 1909-10.

HEBREW.

COURSE I.—Davidson's Hebrew Grammar, completed. Twelve or more chapters in Genesis read.

Throughout the year, four hours.

This course is given in alternate years if called for.

HISTORY.

The aim of the department is to give that knowledge of the facts and the philosophy of history which belongs to a liberal education. The subjects in periods and countries are planned also to train for university work or to equip for preparation to enter law or journalism. The evolution of European civilization from its sources and the growth and influence of Anglo-Saxon institutions are the general theme of the work. History is presented as a real educative process. The department has the appropriate library authorities for the several courses, and source materials are freely used. Abstracts, maps, essays, and outlines are required in the class work. The method of instruction is a combination of lectures and textbook. Course I. is required for admission to the succeeding courses.

COURSE I.—European History. The period covered extends from the Teutonic migration to the French Revolution. The first term is occupied with mediaeval institutions and the transition to modern Europe. Robinson's European Readings and Bemont and Monod's Mediaeval Europe are the texts for class guidance. Required readings in standard authorities are assigned. The second term is devoted to the growth of nationalities and the religious and political struggles for balance of power. Lodge's Modern Europe furnishes the outline of the work.

Throughout the year, three hours.

COURSE II.—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied

with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher. This course alternates with Course III.

Throughout the year, three hours.

Given in 1909-1910.

COURSE III.—French Revolution and Nineteenth Century. The first term follows the causes and the course of the French Revolution and concludes with the Napoleonic Era. A lecture course with references to many authorities, Stephen's Revolutionary Europe and Rose's Napoleon being required.

The second term examines Europe in the Nineteenth Century after the Congress of Vienna, studying the formation of the German and the Italian unity, and the continental triumph of liberalism. Seignobos, Europe and Fyffe's Modern Europe are used as outlines of the work.

Throughout the year, three hours.

Given in 1910-11.

COURSE IV.—History of England. The work extends from the Teutonic origins to the Nineteenth Century. Lectures, collateral readings, and text-books. Gardiner's Student's History and Green's Short History of the English People furnish the outline; and references are required in the constitutional histories of Stubbs, Hallam, and Taswell-Langmead, and in the works of Froude, Gardiner, and Lecky. This course alternates with Course V.

Throughout the year, two hours.

Given in 1910-11.

COURSE V.—The Political and Constitutional History of the United States, from 1781 to 1861. The sources are extensively used as found in the government publications, the writings and addresses of statesmen, and the contemporary interpretation of national affairs. Lectures and reports by students on assigned readings in Schouler, Henry Adams, McMaster, Gordy, Rhodes, and the American Nation Series. Monographs required of the class each term.

Throughout the year, two hours.

Given in 1909-10.

ITALIAN LANGUAGE AND LITERATURE.

COURSE I.—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Salvatore Farina, Il Signor Io; Goldoni, Il vero Amico. Open to Juniors and Seniors.

Throughout the year, three hours.

COURSE II.—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Comedia; Petrarca, Rime Scelte.

Throughout the year, two hours.

Open to Juniors and Seniors.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin Department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman life and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and facsimiles of inscriptions and has a good collection of photographs and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the elective courses, by individual work.

COURSE I.—Cicero, De Senectute or De Amicitia.

Livy, Books XXI-XXII, or selections from Books I-XXV. Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation. In connection with Livy is made a careful study of the geography of Spain and Italy

and of the history of Rome during the Second Punic War. Attention is also directed to the literary characteristics of Livy and of his age.

Throughout the year, four hours.

COURSE II.—Horace, selected Odes and Epodes.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's literary and political life and to as much of the history of the period as sheds light on the subject matter.

Catullus, selected Odes; general discussion of Latin Lyric Poetry.

Terence, three plays. In connection with the translation of Terence, the course includes lectures on the origin and development of comedy in Rome and on the Roman Theatre. The plays are also made a basis for the investigation of syntactical problems.

Throughout the year, three hours.

COURSE III A.—Tacitus, Annals, selections from Books I-VI.

Suetonius, Lives. The Latin texts are used as a basis for a careful study of the character of Tiberius and the upbuilding of the principate. Collateral reading on the history of the period.

Throughout the year, three hours.

B.—Roman Private Life. Lectures and reports on Roman private life, with readings mainly from the Letters of Pliny.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed Course II.

Given in 1909-10.

COURSE IV.—History of Latin Literature. Lectures are given, alternating with illustrative readings in both Latin and English, from various authors studied. A text-book is used, with assigned work in the various manuals in the library.

This course alternates with Course III. Open to all who have completed Course II.

Throughout the year, four hours.

Not given in 1909-10.

COURSE V.—Latin Literature in English. This course consists of the lectures, text-book work, and English readings of Course IV. It may be selected by students without knowledge of Latin.

Throughout the year, two hours.

Not given in 1909-10.

COURSE VI.—Advanced Latin Composition. Practice in writing prose with careful study of syntax and idiom. Reading of a piece of Ciceronian prose as a model for style. Individual work designed primarily for those who look forward to teaching or to graduate work.

Throughout the year, two hours.

Given in 1910-11.

COURSE VII.—Roman Topography. Lectures and reports on topography, architecture, and monuments of Rome.

Given in 1909-10.

Throughout the year, two hours.

MATHEMATICS.

The elementary courses in mathematics, all of which are prescribed for students in engineering and sciences, are: college algebra, plane and spherical trigonometry, analytic geometry including conic sections and differential and integral calculus. These courses may be taken in the freshman and sophomore years. They serve as a sufficient preparation for the ordinary work in physics and physical chemistry, and they mark the minimum of attainments that a teacher of mathematics in a high school or an academy should possess.

Courses III.-V. are elective and presuppose Courses I. and II.

COURSE I.—Algebra. The following topics are considered: undetermined coefficients, binomial theorem for negative and fractional exponents, logarithms, permutations and combinations, probability, elementary treatment of determinants, and theory of equations, with special reference to the solution of numerical equations of the third and fourth degrees.

Trigonometry, plane and spherical with applications to surveying and astronomy.

Throughout the year, four hours.

COURSE II.—Analytic Geometry. The straight line, conic sections, general equation of second degree, and an introduction to geometry of three dimensions.

Calculus, the differentiation and integration of functions with the usual applications.

Throughout the year, four hours.

COURSE III.—Differential Equations, for students in engineering, mathematics, and astronomy. This course includes ordinary and partial differential equations with a few geometrical and mechanical applications. Cohen's Differential Equations is used as a text.

Throughout the year, two hours.

COURSE IV.—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometrie der Lage; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1910-11.

COURSE V.—Functions of a Complex Variable. A general

introduction to the theory of functions of a complex variable, following the methods of Weierstrass and Riemann.

Throughout the year, two hours.

Given in 1909-10.

PHILOSOPHY.

The aim of this department is to acquaint the student with the chief philosophic theories of the past and present, to cultivate in him the habit of critical and independent thought, and to set forth a consistent and satisfactory method of dealing with the fundamental problems of speculation.

COURSE I.—Psychology. A general introduction to the subject. A text-book is used, which is supplemented by informal lectures, assigned readings, and papers on special topics.

First term, three hours.

COURSE II.—Ethics. A brief survey of the history of ethical thought is followed by an examination of the chief ethical systems of modern times, with a view of arriving at the really valid principles which underlie human conduct. These principles are then applied to the various institutions and natural relations of human life. A text-book is used, supplemented by informal lectures.

Second term, three hours.

COURSE III.—Logic. This course aims to give the student a thorough knowledge of the fundamental laws and forms of thought. The principles governing immediate and mediate reasoning will be explained and the leading types of Deduction and Induction will be studied. A text-book will be used, supplemented by lectures, and the student will be drilled in the different figures of the syllogism and in the detection of fallacies. Practical exercises will constitute a large part of the work demanded.

First term, three hours.

Given in 1909-10.

COURSE IV.—Metaphysics. This applies the conclusions reached in the preceding course to the questions relating to reality. Our chief metaphysical ideas are examined and an attempt is made to fix their meaning. These results are then applied to the construction of a consistent and valid theory of the nature of the material world and of the human soul. Open to all who have taken Courses I. and III.

Second term, three hours.

Given in 1909-10.

COURSE V.—History of Philosophy. A study of the chief philosophers and philosophic systems of ancient and modern times. Weber's History of Philosophy is used as a text-book. Open to all who are taking or have taken Course I.

First term, two hours.

Given in 1910-11.

COURSE VI.—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Courses I. and V.

Second term, two hours.

Given in 1910-11.

COURSE VII.—Philosophy of Religion. This will be chiefly a lecture and reference course in which much reading and independent work will be expected on the part of the student. It will be introduced by a discussion of the religious data of thought and knowledge, the relation between Metaphysics and Theology, the true nature of Religion and the trustworthiness of the Religious Consciousness. It will embrace the comparative study of the various Nature, Culture and Prophetic Religions, thus critically studying Religion in its historic phenomena. It will include a consideration of the Absolute Religion.

Open to those who have taken Courses I. and II., or III.

Second term, three hours.

PHYSICS.

This department comprises courses in theoretical and practical physics.

The aim of the instruction is to give the student a thorough knowledge of the principles and laws that govern physical phenomena, and to acquaint him with the actual operations of these principles and laws. The work is presented to the student by lectures, with experimental demonstrations, combined with recitations, and the solution of problems. In the practical work, the student performs such experiments in the laboratory as will give him a practical knowledge of the principles and laws of physics.

The first two courses are elementary and are intended primarily for general culture. The advanced courses are designed for those more especially interested in science, those who expect to teach the subject, or those who are planning to pursue engineering.

Course III. is designed for civil engineers and those anticipating electrical or mechanical engineering. It will be found of profit also to any taking an interest in applied or theoretical mathematical physics.

COURSE I.—General Physics. Mechanics, Sound, Heat, Light, Magnetism, and Electricity. A general course in which the laws and phenomena of physics are carefully developed and illustrated. Lectures, experimental demonstrations, recitations, and laboratory work. Lectures and recitations three hours a week; laboratory work two hours a week. Open to students in courses leading to the degree of A. B. who have completed plane trigonometry.

Throughout the year, four hours.

COURSE IIA.—General Physics. A general course dealing with the same topics as outlined in Course I., but presenting

them with especial reference to the needs of students in scientific and engineering courses. Lectures, experimental demonstrations, and recitations. Open to all students who have completed plane trigonometry.

Throughout the year, four hours.

COURSE IIB.—Experimental Physics. Laboratory work to supplement Course II A. The student is required to determine the physical constants and to demonstrate the laws of physics. It is expected that students will schedule this course at the same time as Course II A.

Throughout the year, two hours.

COURSE III.—Elementary Analytic Mechanics, Statics, Kinematics, and Kinetics. Special attention is given to the application of mechanics to engineering problems. Open to those who have completed Mathematics I. and II. and Physics I. or II.

Throughout the year, two hours.

COURSE IV.—Heat.

First term, three hours.

COURSE V.—Light.

Second term, three hours.

COURSE VI.—Magnetism and Electricity.

Throughout the year, two hours.

Courses IV., V., and VI. are courses in advanced theoretical and experimental work, intended to continue the work of Courses I. and II. and to prepare for graduate work. Open to those who have had Courses I. or II. and Mathematics I. and II.

POLITICAL SCIENCE.

This department is open to those who have completed one year's work in History. Political theories and principles, ancient, mediaeval, and modern, are examined, as illustrated in the rise and fall of nations,

and in the evolution of constitutions. In addition to the cultural worth of these investigations, it is the purpose to train for intelligent, responsible citizenship in the nation and community.

COURSE I.—Comparative Politics. This course is historical as well as comparative in method. It begins with a study of the state, its origin, development, forms, and aims, and an examination into the governments of ancient Greece and Rome and of mediaeval times. Then follow a study of the development and a comparison of the present constitutions of England, France, and Germany. The work is based on Wilson's The State, Burgess' Political Science, and Goodnow's Comparative Constitutional Law.

First term, two hours.

COURSE II.—American Administration. This is a comprehensive study of national, local, and municipal government in the United States. Constitutional Law is examined, the sources of the national constitution being traced and the development of its chief powers analyzed. The practical working of the administration in central and local control is then studied and particular attention given to the conditions and the rule of cities. The work is based on Cooley's Constitutional Law, Bryce's American Commonwealth, and Wilcox's American City.

Second term, two hours.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I.—Interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, force, and ease in public address. During the first

term each student is required to present an assigned passage at every recitation. During the second term fewer but longer assignments are made and more extemporaneous work is required.

Throughout the year, one hour.

COURSE II.—Argumentation. First Term.—Study of masterpieces. Brief-drawing. Discussion of kinds of proof, fallacies, methods of refutation. Written argument. Extemporaneous speaking. Second Term.—Extemporaneous and formal debates.

Elective for those who have completed English I.

Throughout the year, one hour.

COURSE III.—The Oration. First Term.—A study of the general structure and style of the oration. Illustrative selections. Outline-building. Oral presentation of persuasive themes. One original oration. Second Term.—Study of great orators. Each member of the class is required to present a paper involving a comprehensive study and critical analysis of some great English or American orator.

Elective for those who have completed English II.

Throughout the year, one hour.

COURSE IV.—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. A systematic course in gesture. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation.

Elective for those who have completed Course I.

First term, two hours.

COURSE V.—A systematic study of voice culture. Lectures on how to use the voice, defects, and how to overcome them. Practical work by the student in exercises for the development of the different forms and degrees of utterance, quality, pitch, force, in their relation to voice production. This course will include dramatic readings from one of Shaks-

pere's tragedies. Formal recitations will be held and public work required from each student.

Elective for those who have completed Course IV.

Second term, two hours.

Special work for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

COURSE I.—Elementary Spanish. Giese's First Spanish Book. Worman, First Spanish Book. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdos, Dona Perfecta. Open to Juniors and Seniors.

Throughout the year, three hours.

Given in 1908-9.

COURSE II.—A study of modern Spanish novels and dramas. Open to Juniors and Seniors.

Throughout the year, two hours.

Given in 1909-10.

PHYSICAL TRAINING.

For Young Men.—The object of this department is to give the student growth and increase of strength; to provide health and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours. Physical measurements and strength tests of all students are taken upon entrance and at the close of the college course and also at such other times as seem necessary. These form the basis of comparison of the students' conditions and needs, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular

development, or such deformities as are amenable to physical exercise.

Students will receive personal advice in reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise, consisting of Swedish work, military gymnastics, Indian club, wand, and dumb bell drills, principles of heavy gymnastics, is required of the men of the Sophomore and Freshman classes, three hours a week, from the middle of October to the middle of May. Elective work is offered the Junior and Senior classes.

For Young Women.—The aim of the work is to acquire a symmetrical development of the body as a basis for health and grace. The training is based upon Delsarte Philosophy of Expression, and the Swedish and German systems of free movements and light gymnastics. All young women are required to take the prescribed work unless excused on recommendation of the instructor.

The general work includes Indian club and dumb bell exercises, flexing exercises to overcome stiffness, exercises to develop control of the muscles, and all devices in training that secure freedom of bodily action.

The Gymnasium for Women is equipped with the most modern apparatus. Opportunity is offered to do individual work under the direction of the instructor in addition to the regular class exercises. In the basement of Hulings Hall there is a bowling alley for the exclusive use of young women.

REQUIRED WORK.

For graduation in any course, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. The prescribed work in physical training must also be completed. In the senior year a thesis and an oration are required. But in the Scientific and the Civil Engineering courses two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

In the following tables Arabic numerals denote the number of hour recitations weekly, i. e., the number of term hours. Roman numerals refer to the courses of instruction detailed on pages 36 to 69, where may be found full description of the character of the work.

Classical Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
Greek I.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
Greek II.	3	3
English II., III.	3	3
German I. } [See Note.]	4	4
History I. } [See Note.]	3	3
Science } [See Note.]	4	4

JUNIOR YEAR.

Philosophy I., II.	3	3
Elective [See Note]	11	11

SENIOR YEAR.

Elective	14	14

Note.—In the Classical Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., II., Physics I. Two of the subjects bracketed are to be taken in the Sophomore year and the third in the Junior year.

Latin and Modern Language Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
German II. [See Note I.]	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
French I. [See Note I.]	4	4
English II., III.	3	3
History I.	3	3
Elective [See Note II.]	3	3

JUNIOR YEAR.

French II. [See Note I.]	4	4
Philosophy I., II.	3	3
Elective	7	7

SENIOR YEAR.

Elective	14	14

Note I.—Students who offer French instead of German for admission will substitute French II. for German II. in the Freshman year and will take German I. and II. instead of French I. and II. as scheduled.

Note II.—In the Latin and Modern Language Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., II., Physics I.

Latin-Scientific Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
Biology I., II.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Chemistry I., II.	4	4
English II., III.	3	3
Physics I.	4	4
French I. [See Note I.]	4	4

JUNIOR YEAR.

History I.	3	3
Philosophy I., II.	3	3
Elective [See Note II.]	9	9

SENIOR YEAR.

Elective [See Note II.]	14	14

Note I.—Students who offer French instead of German for admission will take German I. instead of French I., as scheduled.

Note II.—In the Latin-Scientific Course nine term-hours' work in Science is required in addition to what is scheduled in the required work. Choice may be made from Biology III. (or IV.), Chemistry III. (or IV., V.), Physics III. (or IV. and V., or VI.), Astronomy I., III., Geology I., II.

Scientific Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Biology I., II.	4	4
Mathematics I.	4	4
English I.	4	4
Modern Language [See Note I.]	4	4

SOPHOMORE YEAR.

Chemistry I., II., or Physics IIA.	4	4
English II.	3	..
Modern Language [See Note I.]	4	4
Mathematics II.	4	4
Elective	..	3

JUNIOR YEAR.

Physics IIA., or Chemistry I., II.	4	4
Geology I., II.	3	3
Elective [See Note II.]	8	8

SENIOR YEAR.

Philosophy I., II.	3	3
Astronomy I.	3	..
Elective [See Note II.]	8	11

Note I.—Two years of Modern Language are required, one of which must be in the language not offered for admission. If both French and German are offered for admission, an advanced course in each of these languages is required for graduation.

Note II.—Two of the following courses must be taken: Biology III. (or IV.), Chemistry III. (or IV. and V.), Physics IIB., III. (or IV. and V., or VI.).

Civil Engineering Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Mathematics I.	4	4
Graphics I., II.	4	4
English I.	4	4
French I. [See Note.]	4	4

SOPHOMORE YEAR.

Mathematics II.	4	4
Graphics III.	3	3
Engineering I.	..	3
Physics II A.	4	4
Physics II B.	2	2
English II.	3	..

JUNIOR YEAR.

Graphics IV., V.	3	3
Engineering II.	3	..
Engineering III.	3	3
Physics III.	2	2
Chemistry I., II.	4	4
Elective	..	3

SENIOR YEAR.

Engineering IV.	4	4
Geology I.	3	..
Astronomy I., II.	3	2
Elective	3	7

Note.—Students who offer French for admission, but not German, will take German I. instead of French I. as scheduled. If both French and German are offered for admission, an advanced course in one of these languages will be taken in the Freshman year.

List of Electives.

The following list of elective studies includes all subjects that are elective in any of the courses of study. Some of the subjects are required in one or more of the courses of study, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflict in hours.

3. So far as possible all required work below his rank must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit for graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5 The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the courses of instruction found on pages 36 to 69.

	First Term	Second Term
Astronomy I.	3	..
Astronomy II.	..	2
Astronomy III.	3	3
Biology I., II.	4	4
Biology III.	3	3
Biology IV.	3	3
Biology V., VI.	4	4
Chemistry I., II.	4	4
Chemistry III.	3	3
Chemistry IV., V.	4	4
Chemistry VI.	4	4
Chemistry VII.	2	2
Chemistry VIII.	2	2
Chemistry IX.	1	1
Chemistry X.	4	4
Economics I., II.	3	3
Economics III., IV.	2	2
Engineering I.	..	3
English III.	..	3
English IV.	3	3
English V.	3	3
English VI., VII.	2	2
English VIII.	2	..
English IX.	2	2
English X.	3	3
English XI.	..	3
English Bible II.	2	2
English Bible III.	3	3
French I.	4	4
French II.	4	4
French III.	3	3
French IV.	3	3
French V.	3	3
French VI., VII.	2	2
Geology I., II.	3	3
Geology III.	..	3
German II.	4	4
German III.	3	3
German IV.	2	2
German V.	1	1
German VI.	2	2

	First Term	Second Term
German VII.	1	1
Greek III.	3	3
Greek IV.	2	2
Greek V.	2	2
Greek VI.	4	4
Greek VII.	2	2
Hebrew	4	4
History I.	3	3
History II.	3	3
History III.	3	3
History IV.	2	2
History V.	2	2
Italian I.	3	3
Italian II.	2	2
Latin II.	3	3
Latin III.	3	3
Latin IV.	4	4
Latin V.	2	2
Latin VI.	2	2
Latin VII.	2	2
Mathematics II.	4	4
Mathematics III.	2	2
Mathematics IV.	3	3
Mathematics V.	2	2
Philosophy I., II.	3	3
Philosophy III., IV.	3	3
Philosophy V. VI.	2	2
Philosophy VII.	..	3
Physics I.	4	4
Physics II A.	4	4
Physics II B.	2	2
Physics III.	2	2
Physics IV., V.	3	3
Physics VI.	2	2
Political Science I., II.	2	2
Public Speaking II.	1	1
Public Speaking III.	1	1
Public Speaking IV., V.	2	2
Spanish I.	3	3
Spanish II.	2	2

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $60 a year, one-half payable at the opening of each term. This includes incidental, library, and gymnasium fees.

Students in the Civil Engineering Course and those who elect any of the technical subjects of that course pay an additional fee of $7.50 a term.

In the laboratories the following fees are charged each term:

Astronomy II.	$ 2.00
Astronomy III.	$5.00 to 10.00
Biology I., II.	2.00
Biology III., IV.	4.00
Biology V., VI.	5.00
Chemistry I., II.	4.00
Chemistry III., IV., V., VI.	7.50
Chemistry VII.	2.50
Chemistry VIII.	10.00
Geology II., III.	2.00
Physics I.	2.00
Physics IIB., IV., V.	4.00
Physics VI.	3.50

In addition breakage of material furnished is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for.

LIVING EXPENSES FOR YOUNG MEN.

The young men of the College board in Cochran

Hall, in Fraternity Chapter houses, or in private families. The cost of board in Cochran Hall is $95.00 a year. The cost in Chapter houses and private families is, as a rule, ten to twenty-five per cent more. One-half of room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half year's payment. The rate for rooms varies from forty to eighty dollars a year for each student. All rooms except those occupied by seniors are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $25.00 at the opening of the year; $25.00 on the second Monday in November; $25.00 at the opening of the second term; $20.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term fee	$ 60.00	$ 60.00
Room rent, fuel, light	30.00	50.00
Table board	95.00	120.00
Books	10.00	20.00
Total	$195.00	$250.00

To be added to these figures are the laboratory fees, if the student pursues studies in which such charges are made. Students in the Civil Engineering Course pay an additional fee of $15 a year. The cost of books will vary greatly from term to term, but a fair average will fall within the limits given.

Expenses other than those enumerated depend

largely upon the student's tastes and habits, and the College does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more than $300 a year. This, of course, does not include traveling expenses, clothing, or luxuries. An economical student can live on $250 a year; indeed not a few students spend less than this and yet live comfortably.

A circular detailing the expenses of living in Cochran Hall will be sent on request.

YOUNG WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors, and young women have access to all departments of the College, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The Hall is under the charge of the Dean of Women, whose influence, with that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the Hall as a college home for young women certain specific rules are es-

sential, but it is the policy of the College to make only such regulations as will best protect the interests of those who reside there. As large a measure of self-government as possible is accorded and the young women of the upper classes assume a certain amount of responsibility for the management of the Hall. All proper freedom is allowed, but applicants for admission are reminded that the purpose of residence in Hulings Hall is not primarily social but educational, and the authorities in charge reserve the right to determine what best promotes the educational welfare of the residents in the hall. A copy of the regulations for the government of the Hall will be sent on request.

The rooms are furnished with beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: Sheets, pillow cases, bed covering, towels, and napkins.

The rates for a term, including heat and light, are as follows:

Main corridor, second and third floors.....$50.00
Rear corridor, second and third floors..... 40.00

When two persons occupy a room the rate for each is one-half the above amount. Room rent is payable at the opening of each term. Rooms may be reserved in advance by the payment of a deposit of ten dollars. Seniors are allowed first choice of rooms. Table board is $55 a term. The House Fee is $10. The total expense for board, room, heat, light, and House Fee for the year, where two occupy a room, is $180 if the room is in the front corridor, and $170 if the room is in the rear corridor.

All Hall fees are to be paid as follows: One-half of the room rent for the year and one-half the House

Fee is due at the opening of each term. Deposit fee is deducted from first payment. Board is payable in four installments as follows: $30 at the opening of the year; $30 the second Monday in November; $30 at the opening of the second term; and $20 the third Monday in April.

AID TO STUDENTS.

Self-Help.—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the College or the boarding clubs. Some find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the College to help students that help themselves.

The Lindley Endowment.—By the will of the late Miss Lucy Lindley, of Meadville, the College received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund.—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburg, gave to the College thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is to be known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and

daughters of ministers of the Pittsburg Conference, and of young men from the territory of that conference who are studying for the ministry. This fund is administered by the officers of the College Faculty on recommendation of a committee of the Pittsburg Conference.

High School Scholarships.—The Board of Trustees has established forty prize scholarships of fifty dollars each, to be awarded each year to honor students in forty of the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course. If the class numbers more than ten, and less than twenty-five, it may go to the first or second in rank, and if there are over twenty-five in the class the scholarship may go to any one of the highest three. The amount of the scholarship is to be applied on the fees of the freshman year.

Educational Society Loans.—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. These loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the Faculty.

No aid from the above mentioned funds, or from

any other source, is given to students who use tobacco.

A student having received aid from any of the College funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The College was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student or his parents, is also advised. Prayer meetings are held Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are largely attended.

The religious influence of the College is not in any sense sectarian, but Christian. On the rolls this year are representatives from nineteen Christian denominations.

THE ADVISER SYSTEM.

Each student on registering is assigned to some member of the faculty, who serves throughout the year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members on lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the College. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Scientific Club meets fortnightly to discuss abstracts of current scientific papers or to listen to the presentation of original research of some of the members. The club includes members of the faculty and students in the college who are interested in scientific work.

The German Club is an organization of students under the leadership of the professor of German that meets fortnightly for the purpose of arousing and sustaining interest in the German language as a vehicle of oral expression and of studying German life, insti-

tutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Society of Applied Science meets bi-monthly for the discussion of current scientific literature and for the discussion of original papers submitted by the members on the application of science to the practical affairs of life. All students in the Scientific and Civil Engineering courses are eligible to membership.

The Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate, under the guidance of representatives of the departments of English and Public Speaking.

PRIZES.

In addition to essay and oration prizes offered by the literary societies, four prizes are open to competition by students of the College classes.

The Wakefield Oration Prize.—Mr. James A. Wakefield, of Pittsburg, furnishes a prize of fifty dollars, in the name of his grandfather, Rev. Samuel Wakefield, D.D., awarded in February of each year, to the young man delivering the best oration. The winner of this prize represents the College in the Tri-State Oratorical Contest held in May.

Class of Ninety Oration Prize.—The class of '90, which numbered forty-two persons, has established a prize of forty-two dollars to be awarded annually to the young man or woman delivering the best oration at a contest held in December of each year.

Heckel Prizes in Biology.—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburg. These prizes are awarded for the best two theses written by graduate or undergradute students upon biological subjects. The theses are presented on the first day of May and the prizes awarded the following Commencement Day.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all members of the College are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be bona fide students taking not less than twelve hours work, must have been registered at the opening of the year in which they compete, may not have more than one condition in any preceding work or be delinquent in the current term's work, and may not receive remuneration, directly or indirectly, for their services. The College is a member of the Inter Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts is Conferred upon those who complete in a satisfactory manner the Classical, the Latin-Scientific, or the Latin and Modern Language Course.

The degree of Bachelor of Science is conferred upon those who complete in a satisfactory manner the Scientific or the Civil Engineering Course.

Bachelors of Arts of this College, or of another of equal rank, may pursue, in residence, work in not more than two distinct lines of study. On the completion of a full year's work, including a satisfactory thesis, the degree of Master of Arts is conferred. Bachelors of Arts of this College may, by vote of the Faculty, be permitted to pursue this work in non-residence, but in that case at least two years must be devoted to it. A student who has completed at the end of the first term of the Senior year all requirements for the degree of Bachelor of Arts, may pursue work in residence which shall count toward the degree of Master of Arts. Such a student may complete in non-residence the remainder of his work for the Master's degree and receive the degree one year after receiving the Bachelor's degree.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the College pays a fee of five dollars for diploma.

REGISTER OF STUDENTS.

GRADUATE STUDENTS.

Candidates for the Degree of Master of Arts.

Andrews, Ethel Aurelia ..... **Meadville**
A.B., Allegheny College, 1908—English, History.

Edson, Emma Margaret ..... **Meadville**
A.B., Allegheny College, 1901—Biology.

Mercill, Myrta Eleanor ..... **Meadville**
A.B., Allegheny College, 1902—German. Mathematics.

Not Candidate for a Degree.

Pflaum, Rachel Witter ..... Meadville
A.B., Wellesley College, 1905—Biology, Chemistry.

SENIORS.

Aiken, William James, C ..... **Braddock**
Benedict, Lee Landseer, E ..... **Titusville**
Bethune, Laura Edith, L ..... **Turtle Creek**
Bullock, Hazel, L ..... **Cambridge Springs**
Clulow, George Henry, LS ..... Cleveland, O.
Cole, Ralph Richard, E ..... **Andover**
Cole, Wilson Giffin, C ..... **Greenville**
Cousins, Benjamin Franklin, C ..... **Hadley**
Cravner, William Charles, C ..... Meadville
Deemer, Paul C., L ..... **Lisbon, O.**
Elkin, Cortlandt Whitehead, C ..... **Smicksburg**
Fishel, Harry McKee, C ..... Pittsburg
Fitch, Jessie Frances, L ..... **Greenville**
Fugate, Edith Lucinda, C ..... **DuBois**
Greene, Mary Bertha, L ..... **Bellevue**
Gregg, Harry Gearld, L ..... **McKeesport**
Hayward, Anna Walker, L ..... **Fredonia, N. Y.**

Heibel, Julia Mathilda, L.....Warren
Houghton, Elizabeth Gladys, L.....Ripley, N. Y.
Illingworth, Katherine May, L.....Insein, Burma
Johnson, Charles Wesley, C.....Mineral Ridge, O.
Keister, John Ridinger, C.....Irwin
Knapp, Frank Lyle, L.....Paulding, O.
Lewis, Charles Fletcher, L.....Meadville
Lytle, Lenore, L.....Warren
McKinney, Florence May, C.....Corry
McKinney, John Hudson, L.....Franklin
McLaughlin, Mary Elizabeth, L.....Springboro
McNees, Sterling Glenn, L.....Kittanning
McQuiston, William Jenkins, L.....Palmyra, O.
Miller, Ralph Erskine, E.....Mt. Pleasant
Mills, Ethel Mae, L.....Venango
Millward, William, LS.....Peking, China
Miner, John Lynn, L.....Punxsutawney
Mould, William Leighton, L.....New Kensington
Nicholls, Mary Gertrude, LS.....Sharon
Parsons, Percy Paul, LS.....Reynoldsville
Ruhling, George Hutze, E.....McKean
Schaffner, Perry Blaine, C.....Pueblo
Skellie, Fred Albert, LS.....North East
Stewart, Charles Franklin, L.....Hadley
Stewart, Frank Everhart, LS.....Williamsburg
Tarr, Anna, L.....Raymore, Mo.
Thomas, Grace, C.....Union City
Wheeling, Clara, L.....Oil City
White, Helen B. Cromwell, LS.....Bradford

Seniors, 46.

JUNIORS.

Andrews, Grover Charles, C.....Conneaut Lake
Baker, Clarence, L.....Butler
Ball, Wendell Phillip, E.....North Girard
Beebe, Margaret Hyde, C.....Meadville
Berry, Ethel Miller, L.....Sheridanville
Bly, Lena Rosalia, L.....Sherman, N. Y.
Boyd, Reuben Earl, C.....Irwin
Braymer, Clyde Stewart, E.....Meadville
Bricker, Robert Weddell, E.....Pittsburg
Bright, Frederic, L.....New Castle
Broadbent, John Howard, C.....Beaver
Burchard, Edith Elizabeth, L.....Cambridge Springs
Burt, William Wright, L.....Zurich, Switzerland
Campbell, Nellie Margaret, L.....Meadville
Campbell, Sophia Bell, L.....Butler
Chase, Louise, L.....Greenville
Criswell, George Stuart, Jr., C.....Franklin
Croasman, Dale Forrest, L.....Redclyffe
DeVitis, Michael Angelo, L.....Wilmerding
Dungan, Helen Amelia, C.....Corry
Emery, Hazel, L.....Conneautville
Fixel, William Gustaf, L.....Meadville
Gillette, Emma Aline, L.....Kane
Gould, Harley Nathan, LS.....West Springfield
Grandey, Joseph LeRoy, C.....Ellwood City
Hammett, Lottie Shirley, LS.....Pittsburg
Harper, Heber Reece, C.....Avalon
Hatch, Bernice Gertrude, L.....Union City
Hickernell, Louis Max, LS.....Saegertown
Hines, Albert Barker, S.....Allegheny
Howard, Grace Alberta, L.....Titusville
Jones, Claire Newton, E.....Corry
Jones, Julia Martha, L.....Kane
Kaufman, Rose M., L.....Dunkirk, N. Y.
Lamb, Harold Henry, LS.....Wilkinsburg
McLean, Ellen Leone, L.....Meadville
McLean, Mabel Grace, L.....Union City
Maxwell, Samuel Laverne, L.....Oil City

Mickle, Friend Lee, LS.....Garland
Miller, Grace Hattie, L.....Pittsburg
Morgan, Walter Leslie, C.....Pittsburg
Murray, Helen Grace, L.....Erie
Nelson, Andrew Julius, L.....Warren
Parsons, Caroline, L.....Derry
Penman, Essex, E.....West Newton
Phillips, Roy Lavere, E.....Meadville
Piper, Joseph DuShane, C.....Derry
Pratt, Maud Alice,, L.....Reynoldsville
Riblet, Harry Gaillard, E.....Erie
Seymour, Floy Achsah, L.....Sherman, N. Y.
Smock, Clifford Edmund, E.....Conneaut Lake
Strickland, Alice Mae, C.....Cattaraugus, N. Y.
Swick, William Arthur, LS.....Beaver Falls
Uhlinger, Roy H., S.....Burg Hill, O.
Vosburgh, Susanna Martina, L.....Attica, N. Y.
Wilds, Elmer Harrison, C.....Arnold
Willey, Frederick George, C.....Middletown, Va.
Yost, Russell Raymond, L.....South Fork

Juniors, 58.

SOPHOMORES.

Allen, Mercedith Bunkerd, LS.....Pittsburg
Bacon, Florence Rosannah, L.....Meadville
Baker, Edna Ethel, L.....Greenville
Ballinger, T. Dudley, LS.....Meadville
Barkley, John Williams, C.....Braceville, O.
Beaty, Milton Jackson, E.....Warren
Beaver, Eva Josephine, L.....Shenango
Blasdell, David Joslin, L.....Dayton, N. Y.
Bond, Helen Margaret, L.....Meadville
Bortz, James Andrew, C.....Greensburg
Bossard, Lloyd Wilson, E.....Meadville
Callahan, Frank Howard, LS.....Pleasant Unity
Cochran, Jesse Cleveland, LS.....Stauffer
Cole, Warren B., S.....Andover, O.
Copeland, Clarence Allen, S.....Meadville
Craig, William Benjamin, S.....Warren, O.
David, Bruce William, E.....Meadville
DeHaven, Jessamine Blanche, L.....Coraopolis
Drake, Mathilda Louise, L.....Cambridge Springs
Drum, Raymond Borland, L.....California
Duffy, Una Katherine, L.....Corry
Emery, Bessie Irene, LS.....Mercer
Fife, Walter Glenn, E.....Millvale
Firestone, Harry Dewees, L.....McKeesport
First, Fearl Cecil, L.....Carlton
Fisher, Clarence Conrad, C.....Ellwood City
Ford, Irvin Davis, LS.....Connemaugh
Fowler, Marjorie, L.....Meadville
Fox, John W., LS.....Poona, India
Frampton, James Ward, C.....Meadville
Fugate, Victor Weston, E.....DuBois
Gahan, James Reed, L.....Titusville
George, Roland Jones, C.....Saegertown
Gleave, Nell May, L.....Oil City
Grant, Charles Clair, E.....Meadville
Grant, Welden Roy, E.....Meadville
Harris, Leonard Clement, L.....Reynoldsville
Hilborn, Claire Egbert, C.....Kane

Hillman, Gertrude, C.....Pittsburg
Hillman, Paul Mansell, C.....Pittsburg
Hubbard, Earle Nicholas, L.....Jerome, N. Y.
Jones, Margretta Christian, L.....Erie
Kelly, Ruth Root, L.....Meadville
Kennedy, Edwin Paul, LS.....Pittsburg
Kulp, Walter LeRoy, LS.....West Middlesex
Lauffer, Verna Frances, L.....Harrison City
Lewis, Martha May, L.....Knox
Loane, Lucy Evelyn, C.....Oil City
McCall, Clarence Andrew, E.....Greenville
Mackenzie, Julia Jean, L.....Oil City
Marcy, Charles Howard, S.....Cambride Springs
Martin, Eleanor May, L.....Meadville
Mead, Gilbert Wilcox, C.....Duquesne
Mendel, Florence, L.....Meadville
Metcalf, Bessie May, C.....Jamestown, N. Y.
Miller, Edna May, L.....Phillipsburg
Moore, John Harrison, L.....Sandy Lake
Moore, Nelson Rist, E.....Vanderbilt
Morse, Melvin Everett, LS.....North Girard
Preston, Ida Florence, L.....Meadville
Proctor, Ruth, LS.....Buffalo, N. Y.
Robinson, Jesse Squibb, C.....Boston
Rossiter, Samuel Y., L.....Erie
Saeger, Lovina Belle, L.....Beaver Falls
Sayre, James Frank, L.....New Richmond
Simonton, Francis Greer, E.....New Castle
Simpson, Viola Hurne, C.....Indiana
Small, Walter Madison, L.....Cooperstown
Smith, Mary, L.....Oakmont
Snearline, Irene Elizabeth, L.....Meadville
Sprouse, Anna Camden, L.....Monessen
Stidger, Ivan Read, L.....Moundsville, W. Va.
Stidger, William Leroy, LS.....Moundsville, W. Va.
Stoner, Oma Belle, L.....Scottdale
Straw, Gertrude Mae, L.....Cambridge Springs
Tordella, Joseph, E.....Meadville
Van Hoesen, Sadie Emeline, L.....Meadville
Walters, Mary Estella, C.....Ridgely, Md.

Weidler, Wellington Earl, S.....Oil City
White, Charles Mortland, L.....McKeesport
White, John Merrill, C.....California
Wilkinson, Abram, E.....Meadville
Willson, Myra Adele, L.....Meadville

Sophomores, 83.

FRESHMEN.

Abbott, Wesley Ernest, L.....Sugar Grove
Amon, Frank Owen, C.....Greenville
Anderson, Wilhelmina Maria, LS.....Titusville
Angus, Lyman Beecher, C.....Connemaugh
Apple, Elmer Albert, L.....Meadville
Ball, Ben H., E.....North Girard
Baum, Chester Allan, E.....Franklin
Belden, Wayne Isaac, S.....Westfield, N. Y.
Bollman, Nellie May, L.....Irwin
Bork, Esther Marie, L.....Meadville
Borland, Carl Allen, C.....Erie
Bourquin, Edna Florence, S.....Meadville
Boyle, Anna, L.....Sharon
Boyle, Elmer Newton, S.....North Braddock
Brigham, Charles Fidelis, LS.....Oil City
Brigham, Samuel Townsend Jack, L.....Oil City
Brown, Edwin Hazlett, S.....Meadville
Canfield, Gerald Wayne, S.....Cambridge Springs
Cook, Charles David, E.....Springboro
Cousins, Esther, L.....Hadley
Dalzell, William Frederick, LS.....Moundsville, W. Va.
Davis, Lynn Merl, S.....North Girard
Davison, Glen Huston, L.....Diamond
Deane, Barbara Leavenworth, L.....Bridgeport, Conn.
DeLancey, Ralph Waldo, S.....Meadville
Derby, Lillian Armorel, L.....Oil City
Dibble, Roy Floyd, C.....Westfield, N. Y.
Dickey, Frank Rumsey, E.....Hartstown
Dilley, Edward Harrison, L.....Meadville
Doane, Althur Walter, E.....Meadville
Donlin, Florence Beatrice, L.....Meadville
Dorworth, Ruth Elizabeth, L.....Oil City
Dunsmore, Archie Nevada, C.....Ford City
English, Earl Thompson, C.....Saegertown
Evans, Lilia Birdeen, L.....Conneaut Lake
Fisher, Marie Abrilla, L.....Sharon
Fitzgerald, Forrest Ralph, S.....Meadville
Forman, William Orange, S.....Townville

Gartner, Wallace Peter, C.....Meadville
Geiss, Lida Alma, L.....Wilmerding
Gibbons, Augusta, L.....Sharon
Goodrich, Jennie Mary, L.....Meadville
Goodwin, Andrew Jackson, S.....Wheeling, W. Va.
Gordon, Harold Jackson, S.....Titusville
Gorham, Ira Boyden, L.....Minneapolis, Minn.
Hamaker, Edward McVicker, S.....Meadville
Hamaker, Reuben Smith, S.....Newport, R. I.
Hamman, Howard Harrison, S.....Greensburg
Hasely, Charles Clark, S.....New Castle
Herbster, Paul Melanchton, LS.....Irwin
Herpel, Fred Karl, LS.....Reynoldsville
Hill, William Adam, C.....Ernest
Hjerpe, Anna Elizabeth, L.....Wellsville, O.
Hofelt, William Rufus, C.....McKeesport
Hoffman, Charles Edward, LS.....Beaver
Horton, Joseph Ovid, E.....Warren
Howes, Ralph Herbert, E.....Oil City
Hughes, Thomas, C.....Wheeling, W. Va.
Hunt, Harrison Randall, S.....Conneaut, O.
Kline, Paul Vorse, S.....Oil City
Krug, Karl John, E.....Butler
Lauffer, Caroline, L.....Harrison City
Lavely, Horace Thomas, C.....Falconer, N. Y.
Leffel, Doyle Hugo, S.....Piqua, O.
Limber, Alfred Edward, L.....Meadville
Ling, Elizabeth Pauline, L.....Meadville
Litten, Ross Burns, C.....Pittsburg
Lockwood, Jane B., L.....Panama, N. Y.
Lord, Elizabeth Daggett, L.....Franklin
Lord, Victoria Mae, L.....Oakmont
Lore, Charles Lawrence, C.....Vandergrift
Lore, James Irwin, Jr., C.....Vandergrift
Lowing, Harold Dana, C.....Linesville
Lupher, Ilda Maria, LS.....Meadville
McClellan, John Price, LS.....Irwin
McClure, Alfred Rose, S.....Sandy Lake
McClure, Cecilia Elizabeth, L.....Titusville
McElwain, Florence Grace, L.....Sheakleyville

McKay, Paul, E.....Meadville
Marhoffer, Charlotte Isabel, L.....Meadville
Maxwell, Willard Finley, L.....Oil City
Mechlin, Freq Joseph, E.....Grove City
Megirt, Margaret, L.....Union City
Miller, Rolfe Thoburn, LS.....Ford City
More, Carl Newton, S.....Batavia, Ill.
Morrison, Leon Albert, C.....Erie
Nichols, Sumner Eli, L.....Girard
Nodine, Arthur Carlton, E.....Titusville
Norton, Frances, L.....Sherman, N. Y.
Parshall, Ernest Chapin, C.....Erie
Patterson, Allen Kennedy, C.....Meadville
Patterson, Mary Jane, L.....Homestead
Peck, Annie Helene, L.....Bellevue
Peterson, Leroy, E.....Kane
Prenatt, Grace Mary, L.....Meadville
Reed, Mildred May, LS.....Dravosburg
Remler, Adelaide, L.....Franklin
Root, Sidney Ross, E.....Cambridge Springs
Ross, Robert Richard, S.....Mount Vernon, N. Y.
Rossell, Ivan Everett, C.....Union City
Rowe, Harry W., E.....Meyersdale
Rublee, Bertrand Homer, E.....Ellington, N. Y.
Ruettgers, Arthur, E.....Brooklyn, N. Y.
Ryerson, Zoe Bess, L.....Meadville
Salmon, Ethel, L.....Westport, Conn.
Shelmadine, Marguerite Black, L.....Pleasantville
Shires, Florence Junebell, L.....Mansfield, O.
Shortt, James Davis, E.....Sugar Grove
Shryock, Josephine Helen, S.....Meadville
Singley, Gerald Lloyd, L.....Meadville
Smith, Charles Stanley, C.....Meadville
Smith, Merrill Jackson, S.....Cherry Creek, N. Y.
Sowash, Mary Stuart, L.....Irwin
Stetson, Ellery Justin, LS.....Cambridge Springs
Stewart, John A. Müller, LS.....Beaver
Swanson, Arthur André, E.....Lakewood, N. Y.
Thomas, Marion Ward, L.....Silver Creek, N. Y.
Thomas, Robert Weller, L.....Conneaut, O.

Thompson, Donald Chester, L.....Meadville
Townsend, Stewart Strickler, L.....Perryopolis
Tripcony, Ralph Richard Martin, LS.....Kent, O.
Vogel, Charles Ellsworth, L.....Jeanette
Waid, Ralph Dow, E.....Titusville
Welker, Roy A., C.....Union City
West, Margaret Ellen, LS.....Corry
Wheeling, Katherine Eleanor, L.....Oil City
White, Elma, L.....Meadville
Wilkinson, William Walter, L.....Meadville
Wilson, Arthur Elwin, S.....Jamestown, N. Y.
Wishart, George Wilbur, L.....Dunbar

Freshmen, 130.

SPECIAL STUDENTS.

Moore, Franklin Burdette.....Greentown, O.

Special, 1.

SUMMARY.

	Men.	Women.	
Resident Graduates	..	4	4
Seniors	28	18	46
Juniors	34	24	58
Sophomores	49	34	83
Freshmen	88	42	130
Special	1	..	1
Total	200	122	322

Degrees Conferred June 18, 1908.

Doctor of Humanities.

Robert A. Armstrong.

Doctor of Divinity.

Daniel W. Howell.
Ralph B. Urmy.
Weldon Pollock Grant.

Master of Arts.

Ira Jesse Dunn.
Albert Clarence Saxman.

Bachelor of Arts.

Archibald Dickson Andrews.
Ethel Aurelia Andrews.
Richard Parker Andrews.
Wynona Baker.
Vera Bash.
Mabel Alicia Beatty.
Josette Hilda Beebe.
Mary Louise Bond.
Oscar Minns Brown.
Charles Winfield Burchard.
Richard Beatty Callahan.
Thomas Archbold Colter.
Fred Broughton Cooley.
Edward Francis Crowe.
Wahnita Bernice Danford.
Jane Lyster Dermitt.
Elizabeth Katherine Etter.
Earle McAdams Giesey.
Florence May Grauel.
Charles Thomas Greer.
May Esther Hart.
Olga Riene Henry.
Lillian Hepfinger.
Otto Henry Houser.
Merle William King.
Maxwell John Lick.
Leroy Isaiah Lord.
Fannie Winifred Lyon.
Richard Addison Lyon.
Elma McGranahan.
William Thompson Mackey.
William Lord McKinney.
Arthur Devoe Powell Miller.
Nulu Nihilson Neale.
Charles Orley Peters.
Harriette Bell Phillips.
Joseph Dover Pratt.
Albert Addison Reavley.
Bess Vera Rist.
Raymond Robert Russell.
Louis Woodside Sherwin.
Ralph C. Siggins.
Carrie Lillian Sowash.
Donald Steadman Thomas.
William Evan Thomas.

Bachelor of Science.

Joseph Marshall Blake.
William Arthur Cappeau.
Frank Calvin Flaugh.
Clifford Sherman Fullerton.
Robert Ginn.
Francis Irvine.
Karl Andrew Miller.
Hugh Melvin Nelson.
Archie C. Perry.
Frank Glenroy Smith.
Harry Homer Stanley.

Bachelor of Letters.

Lucy Helen Wright.

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA.

Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1908.

From the Senior Class.

Archibald Dickson Andrews.
Mabel Alicia Beatty.
Richard Beatty Callahan.
Florence May Grauel.
Charles Thomas Greer.
Lillian Hepfinger.
Louis Woodside Sherwin.
Donald Steadman Thomas.

From the Alumni.

Robert E. Brown, '01.

Annual Address, June 16, 1908.

Professor Edwin G. Conklin, Ph.D.

Subject, "The Cultural Value of Science."

Allegheny College Preparatory School.

This school is under the direct control and supervision of the college authorities, but his its own building and a distinct corps of instructors.

It aims to prepare students for college with a minimum expenditure of time. It is realized that many students looking forward to a college course are precluded by age or by lack of early advantages from taking a regular four years' course in academy or in high school. Young men and women of maturity can by thorough application fit themselves for college in less time than is necessary for younger and less mature persons. Earnest and capable younger pupils may also in some cases gain time in fitting for college. The work is systematic and thorough, and every effort is made to enable the student to work to the best advantage. Under certain limitations students may take a part of their work in college classes. Students registered in the college also who are deficient in certain subjects can pursue these studies under skilled instruction and with every facility for accurate and thorough work.

A fine new building containing in addition to class rooms, an assembly room, society rooms, a chemical laboratory, and a gymnasium, is used by the school.

All instruction is given by college graduates, teachers of thorough preparation and successful experience.

Full particulars, including lists of the instructors and students, are found in the catalogue of the school, a copy of which will be sent on request to the Principal, Samuel B. Churchill, A. B.

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AHI

THE COLLEGE BULLETIN

SERIES IX, No. 1
FEBRUARY, 1910

THE
JOHN CRERAR
LIBRARY

CATALOGUE
1909-1910

ALLEGHENY COLLEGE

FOUNDED IN 1815

NINETY-FIFTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1909-1910

MEADVILLE, PA.
1910

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES IX, No. 1.
FEBRUARY, 1910.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1909-10,

AND ANNOUNCEMENTS OF COURSES FOR 1910-11.

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1910

APRIL

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JUNE

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CALENDAR.

1910.

April 25, Monday—Founders' Day, a holiday.

27, Wednesday—Last day for presenting Senior Orations and Theses.

May 10, Tuesday—Choice of Senior Speakers.

30, Monday—Memorial Day, a holiday.

June 10, 11, 13, 14—Senior Examinations.

13, 14, 15, 16, 17, 18—Second Term Examinations.

19, Sunday, 10:45 a. m.—Baccalaureate Sermon by President William H. Crawford.

7:45 p. m.—Annual Sermon before the Christian Associations.

20, 21, Monday and Tuesday—Entrance Examinations.

20, Monday, 2:00 p. m.—Class Day Exercises.

3:00 p. m.—Annual Meeting of the Conference Board.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

7:30 p. m.—Phi Beta Kappa Address.

9:00 p. m.—President's Reception.

21. Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.

4:00 p. m.—Organ Recital.

7:30 p. m.—Commencement Concert.

9:00 p. m.—Fraternity Banquets.

22, Wednesday, 9:30 a. m.—Commencement Exercises.

SUMMER VACATION.

1910.

Sept. 20, Tuesday—First Term Begins.

19, 20. Monday and Tuesday—Entrance Examinations.

20, Tuesday—Registration of New Students.

21, Wednesday—Registration of Old Students.

22, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 2, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

24, Thursday—Thanksgiving Day, a holiday.

Dec. 2, Friday—Class of Ninety Oration Contest.

16, Friday, 12:30 p. m.—Recitations Close.

CHRISTMAS RECESS.

1911.

Jan. 4, Wednesday, 8:00 a. m.—Recitations Resumed.

11, Wednesday, Last Day for Presenting Senior Orations and Theses.

Jan. 27-Feb. 3.—First Term Examinations.

Feb. 3, Friday, 4:00 p. m.—First Term Ends.

Feb. 7, Tuesday—Second Term Begins.

8, Wednesday, 8:00 a. m.—Recitations Begin.

9, Thursday—Wakefield Oratorical Contest.

22, Wednesday—Washington's Birthday, a holiday. The College Dinner.

Mar. 1, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

April 7, Friday, 12:30 p. m.—Recitations Close.

SPRING RECESS.

April 18, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Monday—Founders' Day, a holiday.

26, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Wednesday—Choice of Senior Speakers.

June 21, Wednesday—Commencement.

BOARD OF TRUSTEES.

Ex-Officio.

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Governor of the Commonwealth.

HON. JAMES T. MITCHELL,
Chief Justice of the Supreme Court.

HON. M. HAMPTON TODD,
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WILLIAM S. FOLTZ,	New Castle
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JAMES P. COLTER,	Meadville
JAMES W. KINNEAR,	Pittsburg
GORTON B. CHASE,	Greenville
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REV. WILLIAM H. CRAWFORD, D.D., LL.D.,	Meadville
JOHN E. RIGG, M.D.,	Wilkinsburg
DURBIN HORNE,	Pittsburg
EDWARD APPLEYARD,	Jamestown, N.Y.
ROBERT B. MURRAY,*	Youngstown, O.
WESLEY B. BEST,	Meadville

*Deceased.

Rev. Thomas N. Boyle, D.D.,	Crafton
Jesse C. McDowell,	Pittsburg
John V. Ritts,	Butler
Charles Miller,	Franklin
John S. Craig,	Allegheny
Edward H. Utley,	Pittsburg
Harry G. Sampson,	Pittsburg
Austin Blakeslee,	Du Bois
Rev. Noble G. Miller, D.D.,	Blairsville
Truman D. Collins,	Nebraska
A. M. Schoyer,	Pittsburg
Nelson A. Rist,	Dawson
John J. Carter,	Titusville
Rev. J. C. McDonald,	New Castle
Arthur L. Bates,	Meadville
Simpson S. Ford,	Cleveland, O.
Robert B. Ward,	Pittsburg
C. E. Welch,	Westfield, N. Y.
Bishop James M. Thoburn, D.D., LL. D.,	Meadville
Sarah B. Cochran,	Dawson
Rev. Robert M. Freshwater, D.D.,	Cleveland, O.

Officers of the Board.

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John J. Henderson,	Vice-President
James P. Colter,	Secretary
Theodore L. Flood,	Treasurer

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Theodore L. Flood,	Secretary

William Thomas. John J. Henderson.
Frank A. Arter.

FACULTY.

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PRESIDENT,
Professor of Ethics.

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Emeritus Professor of Philosophy.

WILLIAM T. DUTTON, C.E.,
Francis Asbury Arter Professor of Mathematics and Civil Engineering.
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Professor of Greek Language and Literature.

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Alumni Professor of History and Economics.

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Bradley Professor of Latin Language and Literature.

FRANK C. LOCKWOOD, Ph.D.,*
Eliza Kingsley Arter Professor of English Language and Literature.

*Absent on leave, Sabbatic year.

ROBERT S. BREED, Ph.D.,
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Professor of German Language and Literature.

MARGARET E. N. FRASER, Ph.D.,
Professor of Romance Languages.
DEAN OF WOMEN.

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James M. Thoburn Professor of English Bible and Philosophy of Religion.

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Professor of Mathematics.

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Professor of Chemistry.

GUY E. SNAVELY, Ph.D.,
Professor of French.
REGISTRAR.

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Acting Professor of English.

ALICE HUNTINGTON SPALDING,
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Instructor in Biology and Geology.

EDWARD J. STEWART,
Physical Director.

EDITH ROWLEY, A.B.,
Librarian.

ROY H. UHLINGER,
Laboratory Assistant in Chemistry.

IVAN R. STIDGER,
Laboratory Assistant in Biology.

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Registration.

THE PRESIDENT — THE REGISTRAR
PROFESSOR ROSS — PROFESSOR MULFINGER
PROFESSOR COBERN

Courses of Study.

PROFESSOR ELLIOTT — PROFESSOR SMITH
PROFESSOR FRASER — PROFESSOR BREED
PROFESSOR LING

Discipline.

THE PRESIDENT — PROFESSOR ELLIOTT
PROFESSOR LEE

Chapel Services.

THE PRESIDENT — PROFESSOR SNAVELY

College Organizations.

PROFESSOR AKERS — PROFESSOR COBERN
PROFESSOR SMITH

Library.

PROFESSOR SMITH — PROFESSOR MULFINGER
PROFESSOR ELLIOTT

Graduate Instruction.

PROFESSOR MULFINGER — PROFESSOR BREED

Athletics and Gymnasium.

PROFESSOR LING — PROFESSOR BREED
PROFESSOR LEE — DIRECTOR STEWART

Accredited Preparatory Schools.

THE PRESIDENT — PROFESSOR AKERS
PROFESSOR ARMSTRONG

College Book Store.

PROFESSOR LEE — PROFESSOR LING
PROFESSOR ARMSTRONG

Catalogue.

PROFESSOR SNAVELY — PROFESSOR LEE
PROFESSOR AKERS

DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 Rev. Martin Ruter was elected to the presidency, since which time the College has been under the general patronage of the Methodist Episcopal Church. It has always been understood, however, both by the trustees of the College, and by its patrons, that the institution is to be conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is situated in Meadville, Pennsylvania, on the main line of the Erie, and Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of more than eleven thousand. It is an old and well established town with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved

streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, illuminating and natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of ravines of wild and rugged beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of Botany and Geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with granolithic walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the College.

Bentley Hall bears the name of Rev. William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the College. The corner stone

was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the college and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies with their libraries.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of Rev. Martin Ruter, D.D., the second president of the college, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the college. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the departments of Mathematics and Civil Engineering. The third floor is occupied by the department of Biology. Two laboratories, an office, a store room, and a lecture room are in use.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women, and accommodates about eighty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear

wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is furnished throughout in Georgia pine. It is provided with a full line of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the departments of Physics and Chemistry. It contains an amphitheatre lecture room, seating one hundred twenty-five students, chemical and physical laboratories, and basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in form, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there is an assembly room, and also a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D.

C. Newton, once a student in the college. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. The cost of the building was $34,000. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburg, and was built by the late Julius Neef, of Philadelphia. It has three manuals and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902 at a cost of over $40,000. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and department seminar rooms. The interior

appointments of the library are entirely in accord with the artistic character of the building.

Alden Academy, completed in February, 1906, is situated on land recently acquired northeast of the main campus. It is built of gray vitrified brick and terra cotta in English school style. It contains an office, seven recitation rooms, an assembly room, a gymnasium, a chemical laboratory, society rooms, and cloak rooms. The equipment throughout is new. The cost of the building was twenty thousand dollars.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., amounting to over sixty thousand dollars, provision has been made for a College Commons for young men. The building is constructed of brick with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first class boarding accommodations, and at reasonable rates, but constitutes a rallying center for the young men of the college. Apart from the dining room and dormitory features of the building there are rooms for the Young Men's Christian Association which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room there are an office for the secretary, a

committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies the first floor of Wilcox Hall of Science. It comprises a large, well-lighted lecture room, a store room, a general laboratory, two dark rooms, and the professor's office and department library. The lecture room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. A number of new pieces of apparatus have recently been received, with which the laboratory is being fitted for the study of mechanics and heat. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The entire second floor of Wilcox Hall of Science together with a large lecture room on the first floor is devoted to the department of Chemistry. On the second floor are located the various laboratories, balance room, store room, and the office and private laboratory of the head of this department. The laboratories are well lighted and ventilated, conveniently arranged, and well supplied with necessary apparatus. Each student's desk is provided with gas, water, and suction pump. The department library is also located here.

The Biological and Geological Laboratories. These laboratories have recently been moved to the third floor of Ruter Hall where there is ample space and good light. The main laboratory receives the

direct north light and is fitted with tables and microscopes for twenty students. In the same room there are placed a large aquarium table fitted with running water, other tables for balanced aquaria, and cases containing the herbarium, and other material used in the laboratory work. The other half of the floor is divided into a lecture room, an office, a store room, and a smaller laboratory for advanced students. The lecture room contains cases for a collection of animals, charts, models, etc., used in lectures. The library, consisting of three hundred well selected volumes, is placed in the smaller laboratory. This room is also fitted with all needed histological, embryological, and bacteriological apparatus.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was made by Brashear, of Allegheny, Pa., and with a smaller instrument, with a seven and one-half inch aperture, made by Alvin Clark and Son, mounted for the special use of students. Other equipment includes a transit, a chronometer, a sextant, and a siderial clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the college. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by Geo. N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes

a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment which will enable the department to offer work to the student that will be comparable with other observatories having a glass of like capacity.

Engineering Apparatus. In Mathematics and Engineering all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in those subjects.

The Museum embraces several distinct collections of minerals, shells, fossils, etc.

The extensive and valuable Natural History Collections are displayed on the first and third floors of Ruter Hall. The collections of minerals include more than eight thousand specimens and are especially noteworthy. There is also a series of Ward casts of fossils, which, together with a growing collection of originals, forms an excellent basis for the work in Paleontology. There are three cases of shells which include several thousand species. The Zoological and Botanical collections are placed in the Biological laboratories, where they are easily accessible to students of these subjects.

It is the intention to make the study of these collections an integral part of the work in Biology and Geology.

The museum is open every Saturday, while the College is in session, from one to three p. m. At

other times visitors are admitted on application to the custodian.

LIBRARY AND READING ROOM.

The library contains more than twenty-two thousand volumes, in addition to fifteen hundred volumes of magazines and more than eight thousand pamphlets. In addition to the general library expenditures each department has a liberal annual appropriation which provides the best and most modern technical and reference books. To these libraries and to the reference library students have free access, and thus early become familiar with the correct use of books and acquire something of the bibliographic sense. The reference library and reading room are open at convenient hours daily except Sunday. From the general stacks, books may be drawn under the usual necessary regulations. The Reading Room provides for students a wide range of periodical literature, both technical and general.

The periodical list includes the following:

American Chemical Journal.
American Economist.
American Journal of Archaeology.
American Journal of Mathematics.
American Journal of Philology.
American Journal of Sociology.
American Magazine.
American Naturalist.
Astronomische Nachrichten.
Athenaeum.
Atlantic Monthly.
Biblical World.
Biological Bulletin.
Bookman.
Botanical Gazette.
Century.
Chautauquan.
Classical Journal.
Classical Philology.
Classical Review.
Contemporary Review.
Cosmopolitan.
Cumulative Book Index.
Current Literature.
Education.
Educational Review.
Engineering News.
Esperanto.
Everybody's Magazine.
Expositor.
Fortnightly Review.
Forum.
Harper's Monthly.
Harper's Weekly.

Homiletic Review.
Independent.
Journal of British Chemical Society.
Journal of Engineers, Society of Pa.
Journal of Geology.
Journal of Philosophy and Psychology.
Literary Digest.
L'Echo des deux Mondes.
McClure's Magazine.
Methodist Review.
Mind.
Missionary Review.
Modern Philology.
Nation.
Nineteenth Century.
North American Review.
Outing.
Outlook.
Popular Astronomy.
Popular Science Monthly.
Reader's Guide.
Records of the Past.
Reports, Egyptian Exploration Fund.
Reports, Palestine Exploration Fund.
Reports, Petrie's Exploration Fund.
Reports, Society of Biblical Archaeology.
Revue Biblique.
Romania.
Science.
Scientific American and Supplement.
Scribner's Magazine.
Survey.
The American College.
World To-Day.
World's Work.

In addition, the library is supplied with a large number of daily and weekly newspapers, both religious and secular.

Each of the men's literary societies has in its own room a library of about twelve hundred well selected volumes, which may be drawn for home use by members.

In addition to the above libraries, students have free access to the Meadville Public Library, which has a good collection of works of general reference, literature and current fiction.

GENERAL PURPOSE.

This institution is a college, not a university. It therefore does not undertake to fit the student to enter any profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. For the first two years all subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for such professions.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. The training of a college does not teach a man how to do business successfully, but it does prepare him to learn any business rapidly, and to attain large success, if he has the requisite talent.

COURSES OF STUDY.

The College offers three courses of study leading to the degree of Bachelor of Arts and two leading to the degree of Bachelor of Science. The entrance requirements for all courses are equal in amount and substantially equivalent in character. The requirements in English, Mathematics, History, and Science are the same for all courses. Work in two foreign languages is required in all courses, but for the courses leading to the degree of Bachelor of Science, advanced work in Mathematics, Biology, Chemistry, or Physics may be substituted for part of one language. The entrance requirements for all courses are given in detail on the following pages.

THE BACHELOR OF ARTS COURSES.

1. **The Classical Course** closely adheres to the ideal of the old college course, founded upon thorough work in the ancient languages, English, and History, with enough Mathematics and Science to insure symmetrical mental development. A wide range of electives enables a student to do special work in favorite lines.

2. **The Latin and Modern Language Course** is identical in purpose and matter with the Classical Course except that modern languages are substituted for Greek.

3. **The Latin-Scientific Course** includes a wide range of scientific work, together with a liberal pro-

portion of culture studies. It is adapted to the needs of those students who desire a course based on the humanities, leading to the degree of Bachelor of Arts, but laying particular stress upon scientific subjects.

THE BACHELOR OF SCIENCE COURSES.

1. **The Scientific Course** emphasizes particularly mathematical and scientific studies, and furnishes a well-rounded equipment for further scientific studies or for the numerous new pursuits opened by modern invention and science.

2. **The Civil Engineering Course** is intended for those who desire to fit themselves for some branch of civil engineering work. It is adapted to the needs, both of those who will go immediately into practical work, and of those who will pursue advanced technical studies.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the College are, as a rule, required to be prepared to enter the Freshman class as candidates for some one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the Faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

REQUIREMENTS FOR ADMISSION.

All subjects required for admission to any of the courses of study are arranged in Groups, which will be found described in detail on the following pages. In all of the Groups other authors and other works than those specified will be accepted if fully equivalent in quantity and character.

The particular Groups required for admission to each of the several courses will be found designated on pages 31 and 32.

GROUPS.

1. ENGLISH.—1. *Reading and Practice.* A limited number of books are assigned for reading. The candidate is required to present evidence of a general knowledge of the subject-matter of these books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and calls for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified to by his instructor, containing compositions or other written work done in connection with the reading of books. In preparation for this part of the requirement it is important that the candidates shall have been instructed in the fundamental principles of rhetoric.

The books set apart for the examination will be:—

In 1910, 1911—Group 1 (two books to be selected), Shaks-

pere's As You Like It, Henry V., Julius Caesar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected), Bacon's Essays; Bunyan's Pilgrim's Progress, Part I.; the Sir Roger de Coverley Papers; Franklin's Autobiography.

Group 3 (one book to be selected), Chaucer's Prologue; Selections from Spencer's Faerie Queene; Pope's Rape of the Lock; Goldsmith's Deserted Village; Palgrave's Golden Treasury (First Series), Books II. and III., with special attention to Dryden, Collins, Gray, Cooper, and Burns.

Group 4 (two books to be selected), Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe and Quentin Durward; Hawthorne's The House of Seven Gables; Thackeray's Henry Esmond; Mrs. Gaskell's Cranford; Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group 5 (two books to be selected), Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, and The English Mail-Coach; Carlyle's Heroes and Hero-Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group 6 (two books to be selected), Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV., with special attention to Wordsworth, Shelley, and Keats; Macaulay's Lays of Ancient Rome; Poe's Poems (selected); Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Browning's Poems (selected).

2. *Study and Practice.* A smaller number of books are assigned for more careful study. The examination based on these books covers subject-matter, form, and structure, and also tests the candidate's ability to express his knowledge with clearness and accuracy. In addition, the candidate may be required to answer questions involving the essentials of English grammar and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination will be:—

In 1910, 1911—Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

II. MATHEMATICS—(*a*) *Elementary Algebra.*—Fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

The text used should be such a book as Tanner's High School Algebra or Wentworth's New School Algebra.

(*b*) *Plane Geometry.*—The general properties of plane rectilinear figures, similar polygons, areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

(*c*) *Solid Geometry.*—The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

The text used in geometry should be the equivalent of Beman and Smith's Geometry or Phillips and Fisher's Geometry.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

III. LATIN.—Grammar. The inflections; syntax of nouns and verbs; general sentence structure, including conditional and relative sentences, indirect discourse, and the subjunctive. Prose composition of detached sentences or connected passages based on the texts read. Caesar, Gallic War, four books. Cicero, seven orations (the Manilian Law to count as two). Vergil, Aeneid, six books. The Roman method of pronunciation is used.

Ordinarily the time spent should not be less than five hour recitations weekly for three full school years.

IV. GREEK.—Grammar. The inflections of nouns and verbs; the principles of the syntax of nouns and verbs; the structure of sentences in general, with particular regard to relative and conditional sentences and to indirect discourse. Prose composition, adapted to test the student's knowledge of grammatical construction and based on the texts read.

Xenophon: The first four books of the Anabasis and the first two books of the Hellenika. The first three books of Homer's Iliad may be offered instead of Hellenika.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

V. GERMAN.—A thorough knowledge of the rudiments of German grammar; ability to read prose and poetry of moderate difficulty; ability to translate simple English sentences into German; the reading of at least three hundred pages of prose; retranslation of matter based on the texts read; memorizing of at least fifteen selected poems; practice in writing and speaking German.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

VI. FRENCH.—A thorough knowledge of French grammar; ability to read French prose and simple poetry; ability to translate easy passages of English into French; ability to write French from dictation. Students are expected to have read at least five hundred pages of French from at least two well-known modern authors, but no amount of reading will be accepted in place of a thorough knowledge of the grammar. As French is the language of the class-room, it is essential that candidates for admission should have some practice in French conversation.

Ordinarily the time spent should not be less than five hour recitations weekly for two full school years.

VII. HISTORY.—United States, the equivalent of Montgomery's Leading Facts of American History. Eastern Nations and Greece, the equivalent of Botsford's History of Greece. Rome, the equivalent of Botsford's History of Rome. Civil Government, the equivalent of Fiske's Civil Government.

VIII. SCIENCE.—Physical Geography, Gilbert and Brigham. Physiology, Colton. Physics, Millikan and Gale, with experiments.

More extended work in one or two of the above subjects will be accepted in place of shorter courses in the three. Elementary Biology or Chemistry will be accepted in place of one of the subjects.

GROUPS REQUIRED FOR ADMISSION.

For admission to the several courses the following Groups are required:

Classical Course, I., II., III., IV., VII., VIII.

For Group IV. the student may offer Group V. or Group VI. In that case he will pursue the study of Greek for four years in his college course.

Latin and Modern Language Course, I., II., III., VII., VIII., and V. or VI.

For Group V. or VI. the student may offer Group IV. In that case he will take both German and French in his college course—two years of the former and one year of the latter.

Latin-Scientific Course, I., II., III., VII., VIII., and IV. or V. or VI.

Scientific Course, I., II., III., VII., VIII., and V. or VI.

For Group III. an equivalent amount of work in one modern language may be offered; or work in a modern language equivalent to two-thirds of the Group, and one of the following subjects:

1. Mathematics, including College Algebra, Plane and Spherical Trigonometry.
2. Chemistry.
3. Biology—(Zoology, or Botany, or both).
4. Physics.

The time spent must have been not less than five hour recitations weekly for a full school year. If 2 or 3 or 4 is

offered, laboratory work must have formed an important part of the work, and laboratory note books and other evidence of the work done, must be presented all properly certified to by the teacher.

Civil Engineering Course. The requirements are the same as for the Scientific Course.

ADMISSION WITH CONDITIONS.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the Freshman Class conditionally, but not if the sum of their deficiencies exceeds a half year's work, nor if in the judgment of the Registration Committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter and will be given an opportunity to remove their deficiencies in Alden Academy. Under certain fixed restrictions, credit may be obtained on entrance for work done in college subjects and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

All admission conditions must be removed before the beginning of the Sophomore year.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the First Term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in place of examinations in all subjects.

ADMISSION BY CERTIFICATE.

Certificates for all the work required for admission will be received from approved schools. *But students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required, adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to be placed on the approved list are invited to address the President.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should also bring with him all laboratory note-books, exercise books, mounted specimens, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismission will be required from those who have been matriculated at other institutions.

COURSES OF INSTRUCTION
BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as specially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy have two objects in view. Course I. is a general descriptive course, designed to give the student a comprehensive view of the science and to acquaint him with the history of the growth of the universe, and the laws which govern its members. It also gives the student an opportunity to study the members of the solar system, the moon, star clusters, and nebulae, with the nine-inch equatorial in the Newton Observatory. Course II. is practical, and is intended primarily for engineering students.

COURSE I.—General Descriptive Astronomy. A study of the earth and its relations to the other members of the solar system; the laws which govern the phenomena of the solar system; and a general descriptive outline of the heavenly bodies.

First term, three hours.

COURSE II.—Field Astronomy. Determination of time, latitude, and longitude, by the transit and sextant. Open to

those who have completed Mathematics I., Astronomy I., and the first term of Physics I. or II.

Second term, two hours.

COURSE III.—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have had Mathematics I. and II., Physics I. or II., and Astronomy I. and may be begun either first or second term.

Throughout the year, three to five hours.

BIOLOGY.

It is the aim of this department, on the one hand, to give the student a general knowledge of the fundamental facts and principles of Biology; on the other hand, to familiarize him with the methods of investigation in this science as a preparation for advanced work and original research. Courses I., II., III., and IV., are adapted to meet the needs of a general college training. Courses V. and VI. are intended for those who expect to become professional biologists, science teachers in high schools, or physicians. Practical work in the laboratory forms a valuable part of the training of each course.

COURSE I.—Elementary Zoology. A comprehensive course in which a survey of the whole field of Zoology is given. The course is planned to meet the needs of those who do not have the opportunity to pursue the subject further, but at the same time it serves as an introduction to the more advanced courses. The laboratory work consists of the study of the external morphology of a series of typical animals, histology, development of the starfish, etc. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

First term, four hours.

COURSE II.—Elementary Botany. A course in Botany similar to the course in Zoology outlined above. The laboratory work consists of the study of a series of typical plants. This course forms the second part of Course I. and should be taken the same year. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

Second term, four hours.

COURSE III.—Advanced Zoology. Habits and structure of animals. The laboratory work of this course consists of the careful dissection of type forms of animals. During the first term those Invertebrates which illustrate the development of Vertebrates are studied. The second term is devoted to the Vertebrates, Lectures and recitations, one hour a week; laboratory work, four hours a week. Elective for all who have completed Course I.

Throughout the year, three hours.

Not given in 1910-11.

COURSE IV.—Advanced Botany. First term, plant morphology and physiology. Second term, special morphology of certain groups of the plants. Lectures and recitations, one hour a week; laboratory work, four hours a week. Elective for all who have completed Course II.

Throughout the year, three hours.

Not given in 1910-11.

COURSE V.—Vertebrate Histology. Training in the preparation of tissues for examination under the microscope. Each student prepares at least one hundred slides of vertebrate tissues which are later studied and described. This course is especially valuable for teachers or for those intending to study medicine. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course III.

First term, four hours.

Not given in 1910-11.

COURSE VI.—Vertebrate Embryology. A study of the development of the chick up to the end of the third day. Many of the slides studied are furnished to the students, but each student is required to prepare whole mounts and several sets

of serial sections. Laboratory work with occasional lectures, eight hours a week. Elective for all who have completed Course V.

Second term, four hours.

Not given in 1910-11.

Additional Courses.—Special work in Entomology, Sanitary Biology, or additional work in Courses V. and VI. will be given when there is a demand for the work.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I.—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-book: Lee's Text-Book of Experimental Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

Throughout the year, four hours.

COURSE II.—Analytical Chemistry.—Qualitative Analysis. —Bases and Acids. The student is required to work through a system of preliminary analytic reactions. The more intimate knowledge of the elements and their compounds thus gained

enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. This course includes a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course I., or its equivalent.

Throughout the year, three hours.

COURSE III.—Analytical Chemistry.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric and volumetric analysis as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirements.

Electro-Chemical Analysis.—A brief course in electrolytic methods of analysis is included in this course.

Laboratory work, eight hours per week. All laboratory work is supplemented by lectures. Open to those who have completed Course II, or its equivalent.

Throughout the year, four hours.

COURSE IV.—Gas Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the density of gases, with the volumetric and barometric methods of determining the composition of various gases, and with many modern practical applications of gasometric apparatus. Lectures and laboratory work eight hours a week for one term. Open to students who have completed, or are taking, Course III.

First or Second term, four hours.

COURSE V.—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic chemistry, and a consideration of such topics as, the nature of carbon, homology, isomerism, stero-isomerism, types of formulae, nomenclature, and classification of organic compounds. The compounds of the *aliphatic* and *aromatic* series are then studied in detail. Those compounds and processes which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI. should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI.—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation and purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determinations of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, quantitative determinations of carbon, hydrogen, nitrogen and the halogens. Laboratory work, six hours per week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII.—Sanitary Analysis. This course deals with the chemical methods used in the analysis of milk, the sanitary analysis of water, and the examination of sewage. The analysis of air and fuel gases is included in this course. Six hours laboratory work per week. Open to those who have completed Course III.

Throughout the year, three hours.

COURSE VIII.—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the analytical methods in use in commercial laboratories. Two lines of work are open to the student: (a) The analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke and coal, and water; (b) the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants. A special course in Toxicological Analysis is offered to students preparing for the study of medicine. Chiefly laboratory work, eight hours per week.

Throughout the year, four hours.

COURSE IX.—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours per week.

Throughout the year, three hours.

COURSE X.—History and Development of Chemical Theory. This course endeavors to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparations of theses. Open to students who have completed Course I.

Throughout the year, two hours.

ECONOMICS.

Particular attention is given to the study of the development of economic life and institutions, American conditions being specifically analyzed. Students are made familiar with the accepted principles of the science and are given a practical acquaintance with the

complex modern economic organization. Encouragement is also offered to individual research, leading to possible future specialization. Lectures, papers, and comparative examination of various authorities constitute the method of instruction.

COURSE I.—Principles of Economics. Introductory survey of industrial history, production and distribution, compassing the accepted elements of the science. The text used is Saeger's Economics, and required readings are assigned in Marshall's Principles of Economics and in the Austrian authorities.

First term, three hours.

COURSE II.—Applied Economics. This is a continuation of Course I. and is a detailed examination of the economic principles applied in trusts, labor, tariff, taxation, and finance. Social economics as presented in Wright's Practical Sociology is included. Lectures, conferences, papers, and individual investigations are the methods of instruction.

Second term, three hours.

COURSE III.—Economic Theories. History of the development of economic thought, including a study of the leading principles of the science as propounded in Adam Smith, Ricardo, Mill, Senior, Menger, Wieser, Böhm-Bawerk, Walker, and Clark. The seminar method is used. Open to a limited number of those who have completed Courses I. and II.

First term, two hours.

COURSE IV.—Transportation. A course of lectures on the American Railway—a study of railway economics and the problems of government regulation. An extensive use is made of the Inter-State Commerce Commission findings and national industrial data. Open to advanced students.

Second term, two hours.

ENGINEERING.

The instruction in this department covers the technical subjects that lie at the basis of engineering work. Constant use is made of instruments and much of the

work consists of actual field work. With the exception of Course I. the subjects are open only to students in the Civil Engineering Course.

COURSE I.—Surveying, with level, transit, and compass. Methods of determining areas. Laying out and dividing land; city surveying; plotting and topographical drawing.

COURSE II.—Railroad Engineering. This course includes a reconnaissance, preliminary and location surveys, and estimates for a line of about one mile in length through as difficult a country as is usually encountered. Plots and working drawings.

First term, three hours.

Since Engineering I. and II. consist largely of field work, students taking them must be careful to arrange their work in such a way as to leave their afternoons free for such practical work.

COURSE III.—Highway Engineering. Methods of constructing Macadam, Telford, gravel, and earth roads; wood, stone, brick, and asphalt pavements for cities; and the methods of maintaining country roads and city pavements.

Strength and Resistance of Materials. Foundations on land, on piles, and under water. The building of stone, brick, and concrete masonry. Masonry dams, retaining walls, bridge abutments and piers, culverts, arches, and sewers.

Throughout the year, three hours.

COURSE IV.—Bridges and Roofs. Including analytical and graphical determination of the stresses in bridges and roofs together with a study of actual structures. Designs of a simple roof truss and of a simple highway bridge with working drawings.

Throughout the year, four hours.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence

on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I.—A General Introduction to the English Bible. A brief sketch of the history of the Hebrew and Greek Bibles is offered and the evolution of the English Bible traced in detail and illustrated by rare original copies of the early translations. The course includes the history of the Hebrew people as told by their own chroniclers. A general survey of the different types of literature to be found in the Old and New Testaments will be given, especial attention being directed to the picturesque biography and to the historical crises which vitally affected the development of the nation. In connection with this the geography of the Holy Land and the chronology of the historic and prophetic eras will be studied. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Moulton's "Modern Reader's Bible" will be used as text book, but much of this course will be given in lectures which each student is required to keep in carefully written note-books which at intervals will be examined by the instructor in English.

Throughout the year, two hours.

COURSE II.—New Testament History and Literature. Stress is here laid on the importance of understanding the political and religious background of the life and thought embodied in the New Testament. To this end the Maccabean and Roman periods of Jewish history are carefully studied. The new light thrown upon the "Land and the Book" from recent explorations will be examined, and the social and industrial condition of the world in the times of Jesus and St. Paul noted. The relation of the Christian religion to the Old Testament religion and to the Greek and Persian mysteries will be traced. The Gospels and the Acts will be studied both from

the historical and literary standpoint and the development of church life and thought will be carefully examined. The Epistolary and Apocalyptic literature will be studied in the order of its development and with constant reference to the new discoveries of contemporaneous documents. Open to those who have taken Course I.

Throughout the year, two hours.

Given in 1911-12.

COURSE III.—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to 165 B. C. is studied in connection with the life and development of the Hebrew people. The international connections with Egypt, Phoenicia, Syria, Assyria and Babylon are briefly traced and the political, social and religious influence noted. The marked eras of the nation's growth are sharply defined from the Conquest to the Exile and the later origin of Judaism explained. The Old Testament literature is taken up in the order of its historic development and its relation to the life, thought and external history of the Israelites is brought out. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relations of the Bible to Science are here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. The latest results of Archaeology are made available. Particular attention is given to the origin, growth and character of the legal and wisdom literature and to the theology of the Prophets. A few of the greatest masterpieces, such as Job, Ecclesiastes, etc., are studied in detail.

Throughout the year, three hours.

Given in 1910-11.

ENGLISH LANGUAGE AND LITERATURE.

The aim of this department is to give the student such thorough instruction in the writing of English as will make his language the instrument in his hand for the easy, idiomatic, and energetic expression of his thought; to train him, both by theory and by practice,

for natural and effective public address; to acquaint him with the essential facts in the development of the English language and literature, and with the great authors who have created that literature; and, finally, to render him sensitive to the literary and aesthetic values of life. Rigorous and painstaking habits of scholarship are constantly inculcated; but the student is never allowed to forget that literature is vital—that it draws its subject-matter and its inspiration from life, and in turn transmutes the crude and imperfect forms of life into beauty and character.

COURSE I.—The Elements of Rhetoric and collateral reading. The chief purpose of this course is to train the student in the use of easy, idiomatic English. It is believed that successful instruction in rhetoric depends not so much upon precept as upon example and practice; so the student is encouraged to write freely upon subjects that appeal to him, and that spring naturally from the interests and activities of his daily life. The instructor corrects each paper in detail, and makes appointments with each student for private consultation. The instruction is made extremely flexible, and freshness and variety of method are constantly sought.

Public Speaking. This work is described under Public Speaking I.

English Bible as literature. This work is described under English Bible I.

The above three subjects are scheduled together as English I., and are to be taken at the same time.

Throughout the year, four hours.

COURSE II.—Advanced Rhetoric. A careful study of the four great forms of discourse, Narration, Description, Exposition, and Persuasion. The method of instruction is both critical and constructive. Lectures, text-book, and class discussion. Fortnightly themes are required; and provision is made for private consultation with the instructor.

First term, three hours.

COURSE III.—Introduction to English Literature. 1. An outline history of the development of English literature. 2. Collateral reading. 3. The study and interpretation, in class, of Shakspere's Hamlet, Milton's Minor Poems, and Pope's Rape of the Lock. Oral recitation, lectures, class discussion, and written tests.

Second term, three hours.

COURSE IV.—English Poetry from 1789 to 1832. Copious readings from the poetry of Burns, Wordsworth, Scott, Byron, Shelley, and Keats. At the beginning of the year, several lectures are devoted to the setting forth of the historical, social, religious, and literary conditions that gave rise to the literature under consideration. The constant aim is to arouse in the mind of the student an intelligent enthusiasm for the great poetry of the period; and, while holding him to accurate and diligent scholarship, to show him how life and literature interpenetrate.

Open to those who have completed Courses I., II., and III.

Throughout the year, three hours.

Given in 1911-12.

COURSE V.—The Victorian Period of English Literature. Landor, Carlyle, Tennyson, Arnold, Ruskin, and Browning. Conducted in the same manner as is Course IV., with which it alternates.

Throughout the year, three hours.

Given in 1910-11.

COURSE VI.—Elements of Literary Criticism. Winchester's Principles of Literary Criticism. A systematic inquiry into the essential elements of literature, and a detailed consideration of the various forms of literature. A considerable amount of illustrative reading is expected, and the student is required to test two or three classic productions by a practical application of the principles of criticism.

Open to those who have taken Course IV. or Course V., and to a limited number who have taken Course III.

First term, two hours.

Given in 1910-11.

COURSE VII.—American Literature. Outlines of its development. Lectures upon representative authors. The critical

study and interpretation of masterpieces. Appreciations and essays by members of the class.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1910-11.

COURSE VIII.—Prose Fiction. Bliss Perry's A Study of Prose Fiction. The novel, the romance, and the short story. Studies in the structure and significance of these popular forms of modern English fiction. Illustrative readings and carefully prepared papers.

Elective under the same conditions as Course VI.

First term, two hours.

Given in 1911-12.

COURSE IX.—Shakspere. Analytic and interpretative studies of nine plays of Shakspere. Midsummer Night's Dream, Henry IV. (1 and 2), As You Like It, Othello, King Lear, Macbeth, Antony and Cleopatra, The Tempest. A careful reading of Dowden's Shakspere Primer is equired in connection with this course.

Elective for those who have completed Course III.

Throughout the year, two hours.

Given in 1911-12.

COURSE X.—Anglo-Saxon. First term: Old English Grammar. Reading of prose selections from Bright's Anglo-Saxon Reader. **Second term:** Anglo-Saxon poetry; The Battle of Maldon, The Wanderer, Beowulf.

Elective for those who have completed Course III.

Throughout the year, three hours.

COURSE XI.—Chaucer. Middle English forms and syntax. The Canterbury Tales and minor poems.

Elective for all who have completed Courses II. and III.

Second term, three hours.

Not given in 1909-10.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student (1) an accurate knowledge of the language of the present time both as written and

spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as above outlined is carried on by means of recitations, the writing of prose and essays, the hearing of lectures in French, and by collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I.—Elementary French. Fraser and Squair's Grammar is used as a reference book. Oral and written exercises. Dictation. Reading of such easy prose as Guerber's Contes; Halévy, L'Abbé Constantin; De La Brète, Mon Oncle et Mon Curé. Memorizing selected fables of La Fontaine.

Throughout the year, four hours.

COURSE II.—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III.—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, Pascal, Bossuet, Fénelon, Mme. de Sévigné.

Throughout the year, three hours.

COURSE IV.—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

COURSE V.—French Literature in the Nineteenth Century. A study of the principal authors of this period. Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Leconte de Lisle, Sainte-Beuve, Balzac, with a brief survey of contemporary writers.

Throughout the year, three hours.

COURSE VI.—Lyric Poetry of the Nineteenth Century. In this course the different schools of poetry will be discussed and copious extracts will be read from representative poets, such as Lamartine, Victor Hugo, Alfred de Musset, Alfred de Vigny, Théophile Gautier, Leconte de Lisle, Sully Prudhomme, Francois Coppée.

Open to those who have completed Course IV. or Course V.

First term, two hours.

COURSE VII.—The Theatre in the Nineteenth Century. In this course the development of the theatre during the period will be studied in detail. Dramas of such representative authors as Victor Hugo, Scribe, Alexandre Dumas, Augier, Sardou, Rostand, Meilhac and Halévy, will be read and discussed.

Open to those who have completed Course IV. or Course V.

Second term, two hours.

GEOLOGY.

The courses in Geology are eminently general culture courses, explaining as they do so many common phenomena and leading the student to take a greater interest in natural objects. The class work is supplemented by practical work in the field, museum, and laboratory.

COURSE I.—Physiography of the Land and Elementary Meteorology. Laboratory work in the study of topographic and weather maps will be supplemented by several short excursions. Recitations three hours a week and laboratory two hours.

Second term, four hours.

COURSE II.—Geology, Structural, Physiographic and Dynamic. Laboratory work includes the study of the common rock-forming minerals, the identification and classification of rocks, and the study of topographic maps. Field work will require a number of excursions. Open to those who have completed the Freshman year. Recitations two hours a week and laboratory two hours.

First term, three hours.

COURSE III.—Historical Geology. Attention will be directed chiefly to North America with a glance at conditions on other continents in each of the geologic periods. In the laboratory, folios showing the distribution, nature, and structure of the rocks of each period will be studied. Students will be expected to become familiar with other publications of the United States Geological Survey. Fossils typical of each period will be studied. Recitations two hours a week and laboratory two hours.

Open to those who have completed Geology I. or II.

Second term, three hours.

COURSE IV.—Mineralogy. Crystallography, blow-pipe analysis, and determinative mineralogy. Recitations and laboratory work. Open to those who have completed a year in chemistry.

First term, three hours.

GERMAN LANGUAGE AND LITERATURE.

The methods employed in the first two years of this study are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accurate and intelligent pronunciation is insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. Translation from German into English is employed at the outset, but is discarded when it is no longer needed as a test of the understanding of

the text. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German language in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been founded among the students of the college. Membership is open to those who have studied German for one or more years.

COURSE I.—Elementary German. Spanhoofd's Lehrbuch der Deutschen Sprache; Huss' German Reader; Storm's Immensee; Baumbach's Im Zwielicht, and Heyse's L'Arrabbiata. The aim of this course is to enable the student to read and understand accurately, without translation, German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German. Prose composition based on the texts read is a part of this work.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II.—Intermediate German. First Term.—Schiller's Wilhelm Tell; Lessing's Minna von Barnhelm; Goethe's Hermann und Dorothea begun. German composition once a week.

Second Term.—Hermann und Dorothea completed; a modern novel; Sudermann's Frau Sorge, or Freytag's Soll und Haben. Reproductive translation into German and independent themes are a part of the work.

Open to students who have presented two years of German for admission to college or who have completed Course I.

Throughout the year, four hours.

COURSE III.—Advanced German. First Term.—Select Readings from the novels of Freytag, Keller, Scheffel, Sudermann and Frensen. The history of German literature during the nineteenth century, with its origin in the eighteenth, will be studied, especially the history of the novel.

Second Term.—Schiller's Wallenstein and Thirty Years' War. A study of the political and social background of the picture unfolded in Schiller's dramatic trilogy will be made by reading selections from his Thirty Years' War and doing other reference work in history. Lectures and reports on the life and literary activities of Schiller are a prominent feature of this course. Open to those who have completed Course II.

Throughout the year, three hours.

COURSE IV.—Goethe's Life and Works. First Term.—Goethe's autobiography, in connection with which several of the earlier productions of the author, especially Die Leiden des Jungen Werther, will be read; then the classical dramas, Egmont, Iphigenie auf Tauris, and Torquato Tasso will be taken up.

Second Term.—Goethe's Faust, Part I., with an outline of Part II., and a history of the Faust legend, will be studied in lectures and recitations.

The reading and interpretation of Goethe's works will be supplemented by a course of lectures on the classical period of German literature. Open to those who have completed Course III.

Throughout the year, two hours.

Given in 1910-11.

COURSE V.—Outline History of German Literature. The aim of this course is to acquaint the student with the most important movements in the history of German literary life, from the earliest times to the twentieth century, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Robertson's History of German Literature will be used as a text book, which will be supple-

mented by lectures in German and reports on assigned readings.

Open to those who have completed Course III., and to others by permission.

Throughout the year, one hour.

Given in 1911-12.

Course V. alternates with Course VII.

COURSE VI.—Nineteenth Century Literature. First Term.—Romanticism and the romantic ideals of art and life. Readings from Kleist, Grillparzer, Heine, and others. The first work read is Heine's Buch der Lieder.

Second Term.—Realism, naturalism, mysticism. Readings from Ludwig, Hebbel, Sudermann, Hauptmann, Fulda, Ernst. A considerable amount of collateral reading and a monthly theme in German will be required in this course.

Open to students who have completed Course III.

Throughout the year, two hours.

Given in 1911-12.

COURSE VII.—Colloquial German. Practice in conversation and in writing German essays. R. Kron's German Daily Life and Meissner's German Conversation will be used as text-books. The course will be conducted in German.

Open to those who have had Course II.

Throughout the year, one hour.

Given in 1910-11.

GRAPHICS.

The work in this department is eminently practical. The actual needs of engineers are kept in mind, and the work is adapted thereto. The courses are open only to students in the Civil Engineering Course.

COURSE I.—Free Hand Drawing. Elementary Drawing, including a thorough training of the hand and eye in outline drawing, shading, and lettering.

First term, four hours.

COURSE II.—The use and care of instruments, projection drawing, isometrical and cabinet drawing, and the principles of shading and tinting.

Second term, four hours.

COURSE III.—Descriptive Geometry, as applied to the representation by projection of all Geometrical Magnitudes, the intersections and tangencies of developable, double curved, and warped surfaces. Spherical projections, shades and shadows, and linear perspective.

Throughout the year, three hours.

COURSE IV.—Topographical and Machine Drawing, including tracing and blue-printing.

First term, three hours.

COURSE V.—Architectural Drawing. Working drawings of a frame building.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to lead the students to the acquisition of a living knowledge of the Greek language as an introduction to a practical acquaintance with Greek life and thought. It is believed that by careful and accurate work in the first years of the language the student can gain such knowledge as will enable him to read widely and independently. The courses laid down are such as are thought to be best adapted to that end. The work is varied, and an attempt is made to give a view of all departments of the literature. The department possesses a growing collection of casts of antique sculpture, painted vases and other antiquities, about a thousand photographs, and several hundred lantern slides.

A voluntary class is formed each year for the purpose of special drill in sight reading.

Students entering college without Greek are given opportunity to prepare to enter Greek I. with a minimum loss of time. Under certain fixed conditions the Greek required for entrance may be taken and counted in the hours required for graduation.

COURSE I.—Homer, The Iliad or the Odyssey. Detailed study of two or three books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition.—Passages from classic authors are carefully read in class. A weekly exercise in composition is based on the Greek text read. The aim is to develop a vocabulary and an accurate knowledge of Greek Syntax. Impromptu writing of Greek is emphasized.

Throughout the year, four hours.

COURSE II.—Lysias. Selected orations. A detailed study of the history of Athens in the Age of Pericles and of the Peloponnesian War is made as an introduction to this part of the work.

Plato.—The Apology and Crito and selections from the Phaedo. Outline of Greek Philosophy.

Greek Literature, text book and lectures. Assigned readings on special topics in Greek history and literature. Reading at sight.

This course is made the basis of the study of historical Greek life and civilization.

Throughout the year, three hours.

COURSE III. A—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris and Aristophanes' The Frogs. Individual investigation of special topics. The course is made not only a study of the rise and development of the Greek Drama, but also a study in literary evolution.

Throughout the year, three hours.

COURSE III. B.—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings in Greek, English, and German.

Throughout the year, three hours.

One of these courses is given each year. In 1909-10 A. was given. Open to all who have completed Course II.

COURSE IV. A.—Classical Archaeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean Civilization. Greek Vase Painting. Greek Architecture.

Throughout the year, two hours.

Given in 1910-11.

COURSE IV. B.—Classical Archaeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1911-12.

Courses IV.A. and IV.B. are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required. The courses are open to those who have completed Course I., and under some limitation may be elected by students having no knowledge of Greek.

COURSE V.—Greek Testament. A minute and critical study of a portion of the New Testament to insure a familiar and accurate knowledge of vocabulary, syntax, and idioms, followed by more rapid reading to develop ease and rapidity in grasping the thought of the original. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1910-11.

COURSE VI.—Greek Literature. A careful survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Given in 1910-11.

COURSE VII.—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. It may be elected by students having no knowledge of Greek.

Throughout the year, two hours.

Given in 1910-11.

HISTORY.

The aim of the department is to give that knowledge of the facts and the philosophy of history which belongs to a liberal education. The subjects in periods and countries are planned also to train for university work or to equip for preparation to enter law or journalism. The evolution of European civilization from its sources and the growth and influence of Anglo-Saxon institutions are the general theme of the work. History is presented as a real educative process. The department has the appropriate library authorities for the several courses, and source materials are freely used. Abstracts, maps, essays, and outlines are required in the class work. The method of instruction is a combination of lectures and text-book. Course I. is required for admission to the succeeding courses.

COURSE I.—European History. The period covered extends from the Teutonic migration to the French Revolution. The first term is occupied with mediaeval institutions and the transition to modern Europe. Robinson's European Readings and Bemont and Monod's Mediaeval Europe are the texts for class guidance. Required readings in standard authorities are assigned. The second term is devoted to the growth of nationalities and the religious and political struggles for balance of power. Lodge's Modern Europe furnishes the outline of the work.

Throughout the year, three hours.

COURSE II.—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary, and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher. This course alternates with Course III.

Throughout the year, three hours.

Given in 1911-12.

COURSE III.—French Revolution and Nineteenth Century. The first term follows the causes and the course of the French Revolution and concludes with the Napoleonic Era. A lecture course with references to many authorities, Stephen's Revolutionary Europe and Rose's Napoleon being required.

The second term examines Europe in the Nineteenth Century after the Congress of Vienna, studying the formation of the German and the Italian unity and the continental triumph of liberalism. Seignobos' Europe and Fyffe's Modern Europe are used as outlines of the work.

Throughout the year, three hours.

Given in 1910-11.

COURSE IV.—History of England. The work extends from the Teutonic origins to the Nineteenth Century. Lectures, collateral readings, and text-books. Gardiner's Student's History and Green's Short History of the English People furnish the outline; and references are required in the constitutional histories of Stubbs, Hallam, and Taswell-Langmead and in the works of Froude, Gardiner, and Lecky. This course alternates with Course V.

Throughout the year, two hours.

Given in 1910-11.

COURSE V.—The Political and Constitutional History of the United States, from 1781 to 1861. The sources are extensively used as found in the government publications, the writings and addresses of statesmen, and the contemporary interpretation of national affairs. Lectures and reports by

students on assigned readings in Schouler, Henry Adams, McMaster, Gordy, Rhodes and the American Nation Series. Monographs required of the class each term.

Throughout the year, two hours.

Given in 1911-12.

HEBREW.

COURSE I.—Davidson's Hebrew Grammar, completed. Twelve or more chapters in Genesis read.

Throughout the year, four hours.

This course is given in alternate years if called for.

ITALIAN LANGUAGE AND LITERATURE.

COURSE I.—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Salvatore Farina, Il Signor Io; Goldoni, Il vero Amico. Open to Juniors and Seniors.

Throughout the year, three hours.

Given in 1911-12.

COURSE II.—Literature in the Thirteenth and Fourteenth Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte.

Throughout the year, two hours.

Open to Juniors and Seniors.
Given in 1910-11.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman life and civilization. Technical grammar and composition are studied only

in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and facsimiles of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the elective courses, by individual work.

COURSE I.—Cicero, De Senectute or De Amicitia.

Livy, Books XXI-XXII, or selections from Books I-XXV.

Terence, one play, usually the Phormio.

Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation. In connection with Livy is made a careful study of the geography of Spain and Italy and of the history of Rome during the Second Punic War. Attention is also directed to the literary characteristics of Livy and of his age.

Throughout the year, four hours.

COURSE II.—Horace, selected Odes and Epodes.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's literary and political life and to as much of the history of the period as sheds light on the subject matter.

Readings from Latin Verse. Selections from representative Latin poets of all periods.

Throughout the year, three hours.

COURSE III. A.—Tacitus, Annals, selections from Books I.-VI.

Suetonius, Lives. The Latin texts are used as a basis for a careful study of the character of Tiberius and the upbuilding of the principate. Collateral study on the history of the period.

Throughout the year, three hours.

B.—Martial, Selected Epigrams.

Quintilian, Institutions X. Lectures and discussions on Roman literary forms.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed Course II.

Given in 1911-12.

COURSE IV.—Roman Private Life. Lectures and reports on Roman private life with readings mainly from the Letters of Pliny.

This course alternates with Course III. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1910-11.

COURSE V.—Roman Topography. Lectures and reports on topography, architecture monuments, and history of Rome.

Given in 1911-12.

Throughout the year, two hours.

COURSE VI.—Roman Philosophy. Cicero, Tusculan Disputations, Book I.; Lucretius, De Rerum Natura, Books I., III., V.

The purpose of this course is to give a brief general knowledge of the whole field of ancient philosophy, with a careful study of the Stoic and Epicurean systems. Lectures are given, supplementing Mayor's Ancient Philosophy and Zeller's Stoics, Epicureans, and Sceptics.

Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1910-11.

MATHEMATICS.

The elementary courses in mathematics, all of which are prescribed for students in engineering and sciences, are: college algebra, plane and spherical trigonometry, analytic geometry including conic sec-

tions and differential and integral calculus. These courses may be taken in the freshman and sophomore years. They serve as a sufficient preparation for the ordinary work in physics and physical chemistry, and they mark the minimum of attainments that a teacher of mathematics in a high school or an academy should possess.

Courses III.-V. are elective and presuppose Courses I. and II.

COURSE I.—Algebra. The following topics are considered: undetermined coefficients, binomial theorem for negative and fractional exponents, logarithms, permutations and combinations, probability, elementary treatment of determinants, and theory of equations, with special reference to the solution of numerical equations of the third and fourth degrees.

Trigonometry, plane and spherical with applications to surveying and astronomy.

Throughout the year, four hours.

COURSE II.—Analytic Geometry. The straight line, conic sections, general equation of second degree and an introduction to geometry of three dimensions.

Calculus, the differentiation and integration of functions with the usual applications.

Throughout the year, four hours.

COURSE III.—Differential Equations, for students in mathematics, engineering, and astronomy. This course includes ordinary and partial differential equations with a few geometrical and mechanical applications. Cohen's Differential Equations is used as a text.

Throughout the year, two hours.

COURSE IV.—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometrie der Lage; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1910-11.

COURSE V.—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable, following the methods of Weierstrass and Riemann.

Throughout the year, two hours.

PHILOSOPHY.

The aim of this department is to acquaint the student with the chief philosophic theories of the past and present, to cultivate in him the habit of critical and independent thought, and to set forth a consistent and satisfactory method of dealing with the fundamental problems of speculation.

COURSE I.—Psychology. A general introduction to the subject. A text-book is used, which is supplemented by informal lectures, assigned readings, and papers on special topics.

First term, three hours.

COURSE II.—Ethics. A brief survey of the history of ethical thought is followed by an examination of the chief ethical systems of modern times, with a view of arriving at the really valid principles which underlie human conduct. These principles are then applied to the various institutions and natural relations of human life. A text-book is used, supplemented by informal lectures. Open to those who have taken Course I.

Second term, three hours.

COURSE III.—Logic. This course aims to give the student a thorough knowledge of the fundamental laws and forms of thought. The principles governing immediate and mediate reasoning will be explained and the leading types of Deduction and Induction will be studied. A text-book will be used,

supplemented by lectures, and the student will be drilled in the different figures of the syllogism and in the detection of fallacies. Practical exercises will constitute a large part of the work demanded.

First term, three hours.

Given in 1911-12.

COURSE IV.—Metaphysics. This applies the conclusions reached in the preceding course to the questions relating to reality. Our chief metaphysical ideas are examined and an attempt is made to fix their meaning. These results are then applied to the construction of a consistent and valid theory of the nature of the material world and of the human soul. Open to all who have taken Courses I. and III.

Second term, three hours.

Given in 1911-12.

COURSE V.—History of Philosophy. A study of the chief philosophers and philosophic systems of ancient and modern times. A text-book will be used. Open to all who are taking or have taken Course I.

First term, two hours.

Given in 1910-11.

COURSE VI.—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Courses I. and V.

Second term, two hours.

Given in 1910-11.

COURSE VII.—Philosophy of Religion. This will be chiefly a lecture and reference course in which much reading and independent work will be expected on the part of the student. It will be introduced by a discussion of the religious data of thought and knowledge, the relation between Metaphysics and Theology, the true nature of Religion and the trustworthiness of the Religious Consciousness. It will embrace the comparative study of the various Nature, Culture and Prophetic Re-

ligions, thus critically studying Religion in its historic phenomena. It will include a consideration of the Absolute Religion.

Open to those who have taken Courses I. and II., or III.

Second term, three hours.

PHYSICS.

This department comprises courses in theoretical and practical physics.

The aim of the instruction is to give the student a thorough knowledge of the principles and laws that govern physical phenomena, and to acquaint him with the actual operations of these principles and laws. The work is presented to the student by lectures, with experimental demonstrations, combined with recitations, and the solution of problems. In the practical work, the student performs such experiments in the laboratory as will give him a practical knowledge of the principles and laws of physics.

The first course is elementary and is intended primarily for general culture. The remaining courses are designed for those more especially interested in science, those who expect to teach the subject, or those who are planning to pursue engineering.

Course III. is designed for civil engineers and those anticipating electrical or mechanical engineering. It will be found of profit also to any taking an interest in applied or theoretical mathematical physics.

COURSE I.—General Physics. Mechanics, Sound, Heat, Light, Magnetism, and Electricity. A general course in which the laws and phenomena of physics are carefully developed and illustrated. Lectures, experimental demonstrations, recitations, and laboratory work. Lectures and recitations three hours a week; laboratory work two hours a week. Open to

students in courses leading to the degree of A. B. who have completed plane trigonometry.

Throughout the year, four hours.

COURSE II.A.—General Physics. A general course dealing with the same topics as outlined in Course I., but presenting them with especial reference to the needs of students in scientific and engineering courses. Lectures, experimental demonstrations, and recitations. Open to all students who have completed plane trigonometry.

Throughout the year, four hours.

COURSE II.B.—Experimental Physics. Laboratory work to supplement Course II.A. The student is required to determine the physical constants and to demonstrate the laws of physics. It is expected that students will schedule this course at the same time as Course II.A.

Throughout the year, two hours.

COURSE III.—Elementary Analytic Mechanics, Statics, Kinematics, and Kinetics. Special attention is given to the application of mechanics to engineering problems. Open to those who have completed Mathematics I. and II. and Physics I. or II.

Throughout the year, two hours.

COURSE IV.—Heat.

First term, three hours.

COURSE V.—Light.

Second term, three hours.

COURSE VI.—Magnetism and Electricity.

Throughout the year, two hours.

Courses IV., V., and VI. are courses in advanced theoretical and experimental work, intended to continue the work of Courses I. and II. and to prepare for graduate work. Open to those who have had Courses I. or II. and Mathematics I. and II.

POLITICAL SCIENCE.

This department is open to those who have completed one year's work in History. Political theories and principles, ancient, mediaeval, and modern, are examined, as illustrated in the rise and fall of nations, and in the evolution of constitutions. In addition to the cultural worth of these investigations, it is the purpose to train for intelligent, responsible citizenship in the nation and community.

COURSE I.—Comparative Politics. This course is historical as well as comparative in method. It begins with a study of the state, its origin, development, forms, and aims, and an examination into the governments of ancient Greece and Rome and of mediaeval times. Then follow a study of the development and a comparison of the present constitutions of England, France, and Germany. The work is based on Wilson's The State, Burgess' Political Science, and Goodnow's Comparative Constitutional Law.

First term, two hours.

COURSE II.—American Administration. This is a comprehensive study of national, local, and municipal government in the United States. Constitutional Law is examined, the sources of the national constitution being traced and the development of its chief powers analyzed. The practical working of the administration in central and local control is then studied and particular attention given to the conditions and the rule of cities. The work is based on Cooley's Constitutional Law, Bryce's American Commonwealth, and Wilcox's American City.

Second term, two hours.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I.—Interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term each student is required to present an assigned passage at every recitation. During the second term fewer but longer assignments are made and more extemporaneous work is required.

Throughout the year, one hour.

COURSE II.—Argumentation. First Term.—Study of masterpieces. Brief-drawing. Discussion of kinds of proof fallacies, methods of refutation. Written argument. Extemporaneous speaking. Second Term.—Extemporaneous and formal debates.

Elective for those who have completed English I.

Throughout the year, one hour.

COURSE III.—The Oration. First Term.—A study of the general structure and style of the oration. Illustrative selections. Outline-building. Oral presentation of persuasive themes. One original oration. Second Term.—Study of great orators. Each member of the class is required to present a paper involving a comprehensive study and critical analysis of some great English or American orator.

Elective for those who have completed English II.

Throughout the year, one hour.

COURSE IV.—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. A systematic course in gesture. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation.

Elective for those who have completed Course I.

First term, two hours.

COURSE V.—A systematic study of voice culture. Lectures on how to use the voice, defects, and how to overcome them. Practical work by the student in exercises for the development of the different forms and degrees of utterance, quality, pitch, force, in their relation to voice production. This

course will include dramatic readings from one of Shakspere's tragedies. Formal recitals will be held and public work required from each student.

Elective for those who have completed Course IV.

Second term, two hours.

Special work for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

COURSE I.—Elementary Spanish. Giese's First Spanish Book. Worman, First Spanish Book. Reading of such easy Spanish as Alarcôn, El Capitân Veneno; Galdós, Dona Perfecta. Open to Juniors and Seniors.

Throughout the year, three hours.

Given in 1910-11.

COURSE II.—A study of modern Spanish novels and dramas. Open to Juniors and Seniors.

Throughout the year, two hours.

Given in 1911-12.

PHYSICAL TRAINING.

For Young Men.—The object of this department is to give the student growth and increase of strength; to provide health and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours. Physical measurements and strength tests of all students are taken upon entrance and at the close of the college course and also at such other times as seem necessary. These form the basis of comparison of the students' conditions and needs, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular

development, or such deformities as are amenable to physical exercise.

Students will receive personal advice in reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise, consisting of Swedish work, military gymnastics, Indian club, wand, and dumb bell drills, principles of heavy gymnastics, is required of the men of the Sophomore and Freshman classes, three hours a week, from the middle of October to the middle of May. Elective work is offered the Junior and Senior classes.

For Young Women.—The aim of the work is to acquire a symmetrical development of the body as a basis for health and grace. The training is based on Delsarte Philosophy of Expression, and the Swedish and German systems of free movements and light gymnastics. All young women are required to take the prescribed work unless excused on recommendation of the instructor.

The general work includes Indian club and dumb bell exercises, flexing exercises to overcome stiffness, exercises to develop control of the muscles, and all devices in training that secure freedom of bodily action.

The Gymnasium for Women is equipped with the most modern apparatus. Opportunity is offered to do individual work under the direction of the instructor in addition to the regular class exercises. In the basement of Hulings Hall there is a bowling alley for the exclusive use of young women.

REQUIRED WORK.

For graduation in any course, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. The prescribed work in physical training must also be completed. In the senior year a thesis and an oration are required. But in the Scientific and the Civil Engineering courses two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

In the following tables Arabic numerals denote the number of hour recitations weekly, i. e., the number of term hours. Roman numerals refer to the courses of instruction detailed on pages 34 to 69, where may be found full description of the character of the work.

Classical Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
Greek I.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
Greek II.	3	3
English II., III.	3	3
German I. } [See Note.]	4	4
History I. } [See Note.]	3	3
Science } [See Note.]	4	4

JUNIOR YEAR.

Philosophy I., II.	3	3
Elective [See Note]	11	11

SENIOR YEAR.

Elective	14	14

Note.—In the Classical Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., Physics I. Two of the subjects bracketed are to be taken in the Sophomore year and the third in the Junior year.

Latin and Modern Language Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
German II. [See Note I.]	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Latin II.	3	3
French I. [See Note I.]	4	4
English II., III.	3	3
History I.	3	3
Elective [See Note II.]	3	3

JUNIOR YEAR.

French II. [See Note I.]	4	4
Philosophy I., II.	3	3
Elective	7	7

SENIOR YEAR.

Elective	14	14

Note I.—Students who offer French instead of German for admission will substitute French II. for German II. in the Freshman year and will take German I. and II. instead of French I. and II. as scheduled.

Note II.—In the Latin and Modern Language Course, one year's work in science is required. Choice may be made from Biology I., II., Chemistry I., Physics I.

Latin-Scientific Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Latin I.	4	4
Biology I., II.	4	4
Mathematics I.	4	4
English I.	4	4

SOPHOMORE YEAR.

Chemistry I.	4	4
English II., III.	3	3
Physics I.	4	4
French I. [See Note I.]	4	4

JUNIOR YEAR.

History I.	3	3
Philosophy I., II.	3	3
Elective [See Note II.]	9	9

SENIOR YEAR.

Elective [See Note II.]	14	14

Note I.—Students who offer French instead of German for admission will take German I. instead of French I., a scheduled.

Note II.—In the Latin-Scientific Course nine term-hours' work in Science is required in addition to what is scheduled in the required work. Choice may be made from Biology III. (or IV.), Chemistry II. (or III. and IV.), Physics III. (or IV. and V., or VI.), Astronomy I., III., Geology II., 111.

Scientific Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Science [Note I.]	4	4
Mathematics I.	4	4
English I.	4	4
Modern Language [See Note II.]	4	4

SOPHOMORE YEAR.

Science [Note I.]	4	4
English II.	3	..
Modern Language [See Note II.]	4	4
Mathematics II.	4	4
Elective	..	3

JUNIOR YEAR.

Science [Note I.]	4	4
Geology II., III.	3	3
Elective [See Note III.]	8	8

SENIOR YEAR.

Philosophy I., II.	3	3
Astronomy I.	3	..
Elective [See Note III.]	8	11

Note I.—Biology I., II., Chemistry I, Physics II. A. are required in the first three years of this course. The choice of order is left to the student.

Note II.—Two years of Modern Language are required, one of which must be in the language not offered for admission. If both French and German are offered for admission, an advanced course in each of these languages is required for graduation.

Note III.—Two of the following courses must be taken: Biology III. (or IV.), Chemistry II. (or III. and IV.), Physics II.B., III. (or IV. and V., or VI.)

Civil Engineering Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Mathematics I.	4	4
Graphics I., II.	4	4
English I.	4	4
Chemistry I.	4	4

SOPHOMORE YEAR.

Mathematics II.	4	4
Graphics III.	3	3
Engineering I.	..	3
Physics II.A.	4	4
Physics II.B.	2	2
English II.	3	..

JUNIOR YEAR.

Graphics IV., V.	3	3
Engineering II.	3	..
Engineering III.	3	3
Physics III.	2	2
Chemistry II.	4	4
Elective	..	3

SENIOR YEAR.

Engineering IV.	4	4
Geology II.	3	..
Astronomy I., II.	3	2
Elective	3	7

List of Electives.

The following list of elective studies includes all subjects that are elective in any of the courses of study. Some of the subjects are required in one or more of the courses of study, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit for graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 34 to 69.

	First Term	Second Term
Astronomy I.	3	..
Astronomy II.	..	2
Astronomy III.	3	3
Biology I., II.	4	4
Biology III.	3	3
Biology IV.	3	3
Biology V., VI.	4	4

	First Term	Second Term
Chemistry I.	4	4
Chemistry II.	3	3
Chemistry III.	4	4
Chemistry IV.	4	4
Chemistry V.	3	3
Chemistry VI.	3	3
Chemistry VII.	3	3
Chemistry VIII.	4	4
Chemistry IX.	3	3
Chemistry X.	2	2
Economics I., II.	3	3
Economics III., IV.	2	2
Engineering I.	..	3
English III.	..	3
English IV.	3	3
English V.	3	3
English VI., VII.	2	2
English VIII.	2	..
English IX.	2	2
English X.	3	3
English XI.	..	3
English Bible II.	2	2
English Bible III.	3	3
French I.	4	4
French II.	4	4
French III.	3	3
French IV.	3	3
French V.	3	3
French VI., VII.	2	2
Geology I.	..	4
Geology II., III.	3	3
Geology IV.	6	..
German II.	4	4
German III.	3	3
German IV.	2	2
German V.	1	1
German VI.	2	2
German VII.	1	1
Greek I.	4	4

	First Term	Second Term
Greek II.	3	3
Greek III.	3	3
Greek IV.	2	2
Greek V.	2	2
Greek VI.	4	4
Greek VII.	2	2
Hebrew	4	4
History I.	3	3
History II.	3	3
History III.	3	3
History IV.	2	2
History V.	2	2
Italian I.	3	3
Italian II.	2	2
Latin I.	4	4
Latin II.	3	3
Latin III.	3	3
Latin IV.	2	2
Latin V.	2	2
Latin VI.	2	2
Mathematics II.	4	4
Mathematics III.	2	2
Mathematics IV.	3	3
Mathematics V.	2	2
Philosophy I., II.	3	3
Philosophy III., IV.	3	3
Philosophy V., VI.	2	2
Philosophy VII.	..	3
Physics I.	4	4
Physics II.A.	4	4
Physics II.B.	2	2
Physics III.	2	2
Physics IV., V.	3	3
Physics VI.	2	2
Political Science I., II.	2	2
Public Speaking II.	1	1
Public Speaking III.	1	1
Public Speaking IV., V.	2	2
Spanish I.	3	3
Spanish II.	2	2

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $75 a year, one-half payable at the opening of each term. This includes incidental, library, and gymnasium fees.

College students taking prepartory studies in Alden Academy pay at the rate of $1.50 per term hour, except for Greek and fourth year Latin.

Students in the Civil Engineering Course and those who elect any of the technical subjects of that course pay an additional fee of $7.50 a term.

In the laboratories the following fees are charged each term:

Astronomy II.	$ 2.00
Astronomy III.	$5.00 to 10.00
Biology I., II.	2.00
Biology III., IV.	4.00
Biology V., VI.	5.00
Chemistry I.	4.00
Chemistry II., III., IV., VI., VII., VIII.	7.50
Chemistry IX.	5.00
Geology I., II., III.	2.00
Geology IV.	4.00
Physics I.	2.00
Physics II.B., IV., V.	4.00
Physics VI.	3.50

In addition breakage of material furnished is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for.

LIVING EXPENSES FOR YOUNG MEN.

The young men of the College board in Cochran

Hall, in Fraternity Chapter houses, or in private families. The cost of board in Cochran Hall is $100.00 a year. The cost in Chapter houses and private families is, as a rule, ten to twenty-five per cent more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half year's payment. The rate for rooms varies from forty to eighty dollars a year for each student. All rooms except those occupied by seniors are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $30.00 at the opening of the year; $25.00 on the second Monday in November; $25.00 at the opening of the second term; $20.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term fee	$ 75.00	$ 75.00
Room rent, fuel, light	30.00	50.00
Table board	100.00	125.00
Books	10.00	20.00
Total	$215.00	$270.00

To be added to these figures are the laboratory fees, if the student pursues studies in which such charges are made. Students in the Civil Engineering Course pay an additional fee of $15 a year. The cost of books will vary greatly from term to term, but a fair average will fall within the limits given.

Expenses other than those enumerated depend

largely upon the student's tastes and habits, and the College does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more than $300 a year. This, of course, does not include traveling expenses, clothing, or luxuries. An economical student can live on $250 a year; indeed not a few students spend less than this and yet live comfortably.

A circular detailing the expenses of living in Cochran Hall will be sent on request.

YOUNG WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors, and young women have access to all departments of the College, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The Hall is under the charge of the Dean of Women, whose influence, with that of her competent assistants, is constantly felt in the social, moral, and religious development of the young women under her care.

For the proper maintenance of the Hall as a college home for young women certain specific rules are es-

sential, but it is the policy of the College to make only such regulations as will best protect the interest of those who reside there. As large a measure of self-government as possible is accorded and the young women of the upper classes assume a certain amount of responsibility for the management of the Hall. All proper freedom is allowed, but applicants for admission are reminded that the purpose of residence in Hulings Hall is not primarily social but educational, and the authorities in charge reserve the right to determine what best promotes the educational welfare of the residents in the hall. A copy of the regulations for the government of the Hall will be sent on request.

The rooms are furnished with beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: Sheets, pillow cases, bed covering, towels, and napkins.

The rates for a term, including heat and light, are as follows:

Main corridor, second and third floors.....$50.00
Rear corridor, second and third floors..... 40.00

When two persons occupy a room the rate for each is one-half the above amount. Room rent is payable at the opening of each term. Rooms may be reserved in advance by the payment of a deposit of ten dollars. Seniors are allowed first choice of rooms. Table board is $60 a term. The House Fee is $10. The total expense for board, room, heat, light, and House Fee for the year, where two occupy a room, is $190 if the room is in the front corridor, and $180 if the room is in the rear corridor.

All Hall fees are to be paid as follows: One-half of the room rent for the year and one-half the House

Fee is due at the opening of each term. Deposit fee is deducted from first payment. Board is payable in four installments as follows: $35 at the opening of the year; $30 the second Monday in November; $30 at the opening of the second term; and $25 the third Monday in April.

AID TO STUDENTS.

Self-Help.—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the College or the boarding clubs. Some find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the College to help students that help themselves.

The Lindley Endowment.—By the will of the late Miss Lucy Lindley, of Meadville, the College received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund.—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburg, gave to the College thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is to be known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and

daughters of ministers of the Pittsburg Conference, and of young men from the territory of that conference who are studying for the ministry. This fund is administered by the officers of the College Faculty on recommendation of a committee of the Pittsburg Conference.

High School Scholarships.—The Board of Trustees has established forty prize scholarships of fifty dollars each, to be awarded each year to honor students in forty of the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course. If the class numbers more than ten, and less than twenty-five, it may go to the first or second in rank, and if there are over twenty-five in the class the scholarship may go to any one of the highest three. The amount of the scholarship is to be applied on the fees of the freshman year.

Educational Society Loans.—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. These loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the Faculty.

No aid from the above mentioned funds, or from

any other source, is given to students who use tobacco.

A student having received aid from any of the College funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The College was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student or his parents, is also advised. Prayer meetings are held Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are largely attended.

The religious influence of the College is not in any sense sectarian, but Christian. On the rolls this year are representatives from fifteen Christian denominations.

THE ADVISER SYSTEM.

Each student on registering is assigned to some member of the faculty, who serves throughout the year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members on lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the College. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Scientific Club meets fortnightly to discuss abstracts of current scientific papers or to listen to the presentation of original research of some of the members. The club includes members of the faculty and students in the college who are interested in scientific work.

The German Club is an organization of students under the leadership of the professor of German that meets fortnightly for the purpose of arousing and sustaining interest in the German language as a vehicle of oral expression and of studying German life, insti-

tutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Society of Applied Science meets fortnightly for the discussion of current scientific literature and for the discussion of original papers submitted by the members on the application of science to the practical affairs of life. All students in the Scientific and Civil Engineering courses are eligible to membership.

The Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate, under the guidance of representatives of the departments of English and Public Speaking.

PRIZES.

In addition to essay and oration prizes offered by the literary societies, four prizes are open to competition by students of the College classes.

The Wakefield Oration Prize.—Mr. James A. Wakefield, of Pittsburg, furnishes a prize of fifty dollars, in the name of his grandfather, Rev. Samuel Wakefield, D.D., awarded in February of each year, to the young man delivering the best oration. The winner of this prize represents the College in the Tri-State Oratorical Contest held in May.

Class of Ninety Oration Prize.—The class of '90, which numbered forty-two persons, has established a prize of forty-two dollars to be awarded annually to the young man or woman delivering the best oration at a contest held in December of each year.

Heckel Prizes in Biology.—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburg. These prizes are awarded for the best two theses written by graduate or undergraduate students upon biological subjects. The theses are presented on the first day of May and the prizes awarded the following Commencement Day.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all members of the College are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be bona fide students taking not less than twelve hours work, must have been registered at the opening of the year in which they compete, may not have more than one condition in any preceding work or be delinquent in the current term's work, and may not receive remuneration, directly or indirectly, for their services. The College is a member of the Inter Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts is conferred upon those who complete in a satisfactory manner the Classical, the Latin-Scientific, or the Latin and Modern Language Course.

The degree of Bachelor of Science is conferred upon those who complete in a satisfactory manner the Scientific or the Civil Engineering Course.

Bachelors of Arts of this College, or of another of equal rank, may pursue, in residence, work in not more than two distinct lines of study. On the completion of a full year's work, including a satisfactory thesis, the degree of Master of Arts is conferred. Bachelors of Arts of this College may, by vote of the Faculty, be permitted to pursue this work in non-residence, but in that case at least two years must be devoted to it. A student who has completed at the end of the first term of the Senior year all requirements for the degree of Bachelor of Arts, may pursue work in residence which shall count toward the degree of Master of Arts. Such a student may complete in non-residence the remainder of his work for the Master's degree and receive the degree one year after receiving the Bachelor's degree.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the College pays a diploma fee of five dollars.

REGISTER OF STUDENTS.

GRADUATE STUDENTS.

Candidate for the Degree of Master of Arts.

Fitch, Jessie Frances, ...Greenville
A.B., Allegheny College, 1909—History, Philosophy.

SENIORS.

Andrews, Grover Charles, C.....Conneaut Lake
Baker, Clarence Dewitt, L.....Butler
Ball, Wendell Phillipp, E.....North Girard
Beebe, Margaret Hyde, C.....Nanking, China
Berry, Ethel Miller, L.....Sheridanville
Bly, Lena Rosalia, L.....Sherman, N. Y.
Boyd, Reuben Earl, C.....Irwin
Bright, Frederic, L.....New Castle
Broadbent, John Howard, C.....Beaver
Burchard, Edith Elizabeth, L.....Cambridge Springs
Campbell, Nellie Margaret, L.....Meadville
Campbell, Sophia Bell, L.....Butler
Chase, Louise Rogers, L.....Greenville
Criswell, George Stuart, Jr., C.....Franklin
Croasmun, Dale Forest, L.....Redclyffe
DeHaven, Jessamine Blanche, L.....Coraopolis
DeVitis, Michael Angelo, L.....Wilmerding
Dungan, Helen Amelia, C.....Corry
Emery, Hazel, L.....Conneautville
Fixel, William Gustaf, L.....Meadville
Fox, John Warner, LS.....Poona, India
Gahan, James Reid, L.....Titusville
Gillett, Emma Aline, L.....Kane
Gould, Harley Nathan, LS.....West Springfield
Grandey, Joseph LeRoy, C.....Ellwood City
Hammett, Lottie Shirley, LS.....Pittsburg

Harper, Heber Reece, C.....Avalon
Hatch, Bernice Gertrude, L.....Union City
Hickernell, Louis Max, LS.....Saegertown
Hilborn, Howard Davison, E.....Lincoln, Neb.
Hines, Albert Barker, LS.....Allegheny
Howard, Grace Alberta, L.....Titusville
Jones, Claire Newton, E.....Corry
Jones, Julia Martha, L.....Kane
Kauffman, Rose M., L.....Dunkirk, N. Y.
Lamb, Harold Henry, LS.....Wilkinsburg
Lewis, Martha May, L.....Knox
McLean, Ellen Leone, L.....Meadville
McLean, Mabel Grace, L.....Union City
Maxwell, Samuel Laverne, L.....Oil City
Miller, Grace Hattie, L.....Pittsburg
Morgan, Walter Leslie, C.....Pittsburg
Murray, Helen Grace, L.....Erie
Parsons, Caroline, L.....Derry
Penman, Essex, E.....West Newton
Phillips, Roy Lavere, E.....Meadville
Piper, Joseph DuShane, C.....Derry
Pratt, Maud Alice, L.....Reynoldsville
Riblet, Harry Gaillard, E.....Erie
Rossiter, Samuel Y., L.....Erie
Seymour, Floy A., L.....Sherman, N. Y.
Smock, Clifford Edmund, E.....Conneaut Lake
Strickland, Alice Mae, C.....Cattaraugus, N. Y.
Swick, William Arthur, LS.....Beaver Falls
Uhlinger, Roy H., S.....Burg Hill, O.
Wilds, Elmer Harrison, C.....Arnold
Willey, Frederick George, C.....Middletown, Va.
Yost, Russell Raymond, L.....South Fork

Seniors, 58

JUNIORS.

Allen, Mercedith Bankerd, LS.....Pittsburg
Bacon, Florence Rosannah, L.....Meadville
Ballinger, T. Dudley, LS.....Meadville
Barkley, John William, C.....Braceville, O.
Bassett, Mollie Arnett, L.....Bridgeport, Conn.
Beaver, Eva Josephine, L.....Shenango
Bond, Helen Margaret, L.....Meadville
Bortz, James Andrew, S.....Greensburg
Bricker, Robert Weddell, E.....Pittsburg
Burt, William Wright, L.....Zurich, Switzerland
Cole, Warren Bushnell, S.....Andover, O.
Copeland, Clarence Allen, S.....Meadville
Craig, William Benjamin, S.....Warren, O.
David, Bruce William, E.....Meadville
Duffy, Una Katherine, L.....Corry
Emery, Bessie Irene, LS.....Mercer
Fife, Walter Glenn, E.....Millvale
Firestone, Harry Dewees, L.....McKeesport
Fisher, Clarence Conrad, C.....Ellwood City
Ford, Irvin Davis, LS.....Conemaugh
Frampton, James Ward, C.....Meadville
George, Roland Jones, C.....Saegertown
Gleave, Nell May, L.....Oil City
Grant, Charles Claire, E.....Meadville
Grant, Welden Roy, E.....Meadville
Harris, Leonard Clement, L.....Reynoldsville
Hilborn, Claire Egbert, C.....Kane
Hillman, Gertrude, C.....Youngstown, O.
Hillman, Paul Mansell, C.....Youngstown, O.
Hubbard, Earle Nicholas, L.....Jerome, N. Y.
Jones, Margretta Christian, L.....Erie
Kelly, Ruth Root, L.....Meadville
Kennedy, Edwin Paul, LS.....Pittsburg
Kulp, Walter LeRoy, LS.....West Middlesex
Lauffer, Verna Frances, L.....Harrison City
Loane, Lucy Evelyn, C.....Oil City
Mackenzie, Julia Jean, L.....Oil City
MacKnight, Sarah Elizabeth, L.....St. Paul, Minn.
Martin, Eleanor May, L.....Meadville

Mead, Gilbert Wilcox, C.....Verona
Metcalf, Bessie May, C.....Jamestown, N. Y.
Mickle, Friend Lee, LS.....Garland
Miller, Edna May, L.....Philipsburg
Moore, John Harrison, L.....Sandy Lake
Moore, Nelson Rist, E.....Vanderbilt
Morse, Melvin Everett, LS.....North Girard
Preston, Ida Florence, L.....Meadville
Robinson, Jesse Squibb, C.....Boston
Saeger, Lovina Belle, L.....Beaver Falls
Sayre, James Francis, L.....New Richmond
Scott, Bert Llewellyn, C.....Corry
Simpson, Viola Hume, C.....Indiana
Smith, Lillian La Verna, C.....Tarentum
Smith, Mary, L.....Oakmont
Snearline, Irene Elizabeth, L.....Meadville
Sprouse, Anna Camden, L.....Monessen
Stidger, Ivan Read, L.....Moundsville, W. Va.
Stockdale, Robert Clark, C.....Loop
Stoner, Oma Belle, L.....Scottdale
Van Hoesen, Sadie Emeline, L.....Meadville
Weeter, Harry Montgomery, LS.....New Bethlehem
White, Charles Mortland, L.....McKeesport
White, John Merrill, C.....California
Willson, Myra Adele, L.....Meadville

Juniors, 64.

SOPHOMORES.

Amon, Frank Owen, C.....Greenville
Anderson, Wilhelmina Maria, S.....Titusville
Angus, Lyman Beecher, C.....Conemaugh
Baum, Chester Allan, E.....Franklin
Beaty, Milton Jackson, E.....Warren
Bodenhorn, Oscar Henry, LS.....New Bethlehem
Bollman, Nellie May, L.....Irwin
Bork, Esther Marie, L.....Meadville
Borland, Carl Allan, C.....Erie
Braymer, Berdeen, C.....Cochranton
Brigham, Charles Fidelis, LS.....Oil City
Brigham, Samuel Townsend Jack, LS.....Oil City
Brown, Edwin Hazlett, S.....Meadville
Cochran, Jesse Cleveland, LS.....Stauffer
Cousins, Esther, L.....Hadley
Dalzell, William Frederick, LS.....Moundsville, W. Va.
Davis, Lynn Merl, S.....North Girard
Davison, Glenn Huston, L.....Diamond
DeLancey, Ralph Waldo, S.....Meadville
Dickey, Emma, L.....Hartstown
Dickey, Frank Rumsey, E.....Hartstown
Doane, Arthur Walter, E.....Meadville
Donlin, Florence Beatrice, L.....Meadville
Dorworth, Ruth Elizabeth, L.....Oil City
Dunsmore, Archie Navada, L.....Ford City
English, Earl Thompson, C.....Saegertown
Geiss, Lida Alma, L.....Wilmerding
Gibbons, Augusta, L.....Sharon
Goodrich, Jennie Mary, L.....Meadville
Gordon, Harold Jackson, S.....Cambridge Springs
Hamman, Howard Harrison, S.....Greensburg
Hasely, Charles Clark, S.....New Castle
Herpel, Fred Karl, LS.....Reynoldsville
Hill, William Adam, C.....Ernest
Hofelt, William Rufus, C.....McKeesport
Hoffman, Charles Edward, LS.....Beaver
Hughes, Thomas, C.....Wheeling, W. Va.
Hunt, Harrison Randall, S.....Conneaut, O.

Jordan, Louise Torrence, L.....Meadville
Lauffer, Caroline, L.....Harrison City
Lavely, Horace Thomas, C.....Falconer, N. Y.
Leffel, Doyle Hugo, S.....Piqua, O.
Leitzel, Henry Samuel Howard, C.....Braddock
Limber, Alfred Edward, L.....Meadville
Ling, Elizabeth Pauline, L.....Meadville
Litten, Ross Burns, C.....Pittsburg
Lord, Victoria Mae, L.....Oakmont
Lore, Charles Lawrence, C.....Vandergrift
McClure, Alfred Rose, S.....Sandy Lake
McClure, Cecilia Elizabeth, L.....Titusville
McElwain, Florence Grace, L.....Sheakleyville
McKay, Paul, E.....Meadville
Maxwell, Willard Finley, L.....Oil City
Meek, Daniel Coe, LS.....Coshocton, O.
Megirt, Margaret Ellen, L.....Union City
Miller, Rolfe Thoburn, LS.....Ford City
More, Carl Newton, S.....Batavia, Ill.
Morrison, Leon Albert, C.....Erie
Nichols, Sumner Ely, L.....Girard
Nodine, Arthur Carlton, E.....Titusville
Norton, Frances, L.....Sherman, N. Y.
Osthaus, Ned, LS.....Scranton
Patterson, Mary Jane, L.....Homestead
Peck, Annie Helene, L.....Bellevue
Power, Lina Clancy, L.....Conneautville
Prenatt, Grace Mary, L.....Meadville
Reed, Mildred May, LS.....Dravosburg
Remler, Adelaide, L.....Meadville
Ross, Robert Richard, S.....Mount Vernon, N. Y.
Ruettgers, Arthur, E.....Brooklyn, N. Y.
Salmon, Ethel, L.....Westport, Conn.
Shires, Florence Junebell, L.....Mansfield, O.
Small, Walter Madison, L.....Cooperstown
Smith, Charles Stanley, C.....Meadville
Smith, Merrill Jefferson, S.....Cherry Creek, N. Y.
Sowash, Mary Stuart, L.....Irwin
Stewart, John A. Mueller, LS.....Beaver

Swanson, Arthur André, E.....Lakewood, N. Y.
Thomas, Marion Ward, L.....Silver Creek, N. Y.
Thomas, Robert Weller, L.....Conneaut, O.
Thompson, Donald Chester, L.....Meadville
Tordella, Joseph, E.....Meadville
Vogel, Charles Ellsworth, LS.....Jeanette
Weidler, Wellington Earl, S.....Oil City
Welker, Roy A., C.....Union City
West, Margaret Ellen, LS.....Jamestown, N. Y.
Wheeling, Katherine Eleanor, L.....Oil City

Sophomores, 88.

FRESHMEN.

Abbott, Wesley Ernest, L.....Sugar Grove
Akerson, George Edward, S.....Minneapolis, Minn.
Allgier, George John, C.....Glen Hazel
Anchors, Muza, S.....New Kensington
Apple, Elmer Albert, L.....Meadville
Baldwin, Ruth Frances, L.....Chautauqua, N. Y.
Barstow, Harry Eldred, S.....Bryan, O.
Bayard, Ethel, L.....McKeesport
Beatty, Maude Irene, L.....Oil City
Beyer, Margaret Virginia, LS.....Punxsutawney
Bishop, Annie Gray, L.....Versailles
Blucher, Joseph Cooper, S.....New Castle
Breene, Maurice Patrick, LS.....Oil City
Brockway, Clair Frederic, LS.....S. New Lyme, O.
Caldwell, William James, S.....New Castle
Calvin, Claudius Virgil, LS.....Meadville
Chapin, Alice Elizabeth, C.....Meadville
Coleman, Paul Martelle, E.....Meadville
Conaway, Ross Kelly, S.....Warren
Conaway, Willard Green, S.....Warren
Croasmun, Max Neale, LS.....Redclyffe
Cuthbert, James Clifford, E.....Freeport
Day, Willard Hammond, LS.....Havre de Grace, Md.
DeLand, Edith May, L.....Sheridan, N. Y.
Denison, Howard Harrison, L.....Linesville
De Young, Joseph Staples, E.....Kane
Doane, Norman David, S.....Meadville
Dotterrer, William, S.....Muzette
Dutton, Helen Maria, C.....Meadville
Eckels, Claude Alan, S.....Kane
Else, James Gibson, E.....Youngstown, O.
Eshelman, Fayette Clinton, S.....Franklin
Fisher, Marie Abrilla, L.....Sharon
Fitzgerald, Thomas Raymond, L.....Mt. Pleasant
Foster, Vera Lillian, L.....Butler
Gibbs, Myrl DeForest, S.....Jefferson, O.
Goodwin, Andrew Jackson, S.....Wheeling, W. Va.
Gorham, Ira Boyden, LS.....Minneapolis, Minn.
Grauel, Beulah Marie, L.....Sharpsburg

Griswold, Florence Minerva, L.....Warren
Haine, William, S.....North Bloomfield, O.
Hall, Edith, L.....Harmonsburg
Hall, Ernest Jackson, L.....Russell
Hamilton, Willard Kendig, LS.....Irwin
Hawk, Louis Leberman, E.....Meadville
Hayes, Lucile, L.....Union City
Hendricks, Charles Seaton, C.....Bolivar
Henry, Willard Lawrence, E.....Linden, N. J.
Herbster, Paul Melanchton, S.....Irwin
Hinckley, Cordon Earle, S.....Johnsonburg
Hines, Raymond Henry, E.....Meadville
Horth, Albert James, E.....Meadville
Hunter, Gordon Emery, S.....Saegertown
Hutchinson, Clara Romaine, L.....Warren
Kelsay, Agnes Ruth, L.....Meadville
Kightlinger, Karl Ridle, E.....Meadville
Kimble, John Howard, C.....Mercer
Kramer, Edmond Rudolph, E.....Meadville
Lane, James Garfield, C.....Meadville
Leaf, Edwin Barnhardt, LS.....Irwin
Long, Kennett Edgar, L.....Irwin
Lord, Howard F., E.....Conneautville
Lowe, Mary Elizabeth, L.....Meadville
McClellan, John Price, LS.....Irwin
McDonald, Fawn, L.....Union City
McKay, Evans, S.....Meadville
McKenzie, Ralph Waldo, C.....Beaver
McKinney, Eva Emily, L.....Corry
McLean, Owen Caldwell, L.....Sharon
McNulty, Charles Grover, E.....Conneautville
Martin, Charles Williams, E.....Oil City
Mates, James Wilson, LS.....Butler
Mayer, Donald Regis, L.....Meadville
Maynard, Foresta Hazel, C.....Elgin
Meeker, Nellie Asenath, L.....Westport, Conn.
Miller, Charles Spurgeon, C.....Elizabeth
Monahan, Gertrude Solon, L.....Titusville
Mosier, Rodney Dean, LS.....Hayfield
Murphy, Mildred Margaret, L.....Meadville

Nevins, Clyde Louis, C.....Braddock
Norton, Samuel Harry, E.....Meadville
Olson, Ellen Hazel, L.....Titusville
Palmer, Harvey Benjamin, S.....Meadville
Perley, Seth Todd, E.....Erie
Piersol, Robert James, E.....Bentleyville
Poux, Marie Cecelia, L.....Meadville
Putney, Sara Alva, L.....Clarion
Rea, Alfred Alonzo, C.....Linesville
Reed, James Wilbur, S.....North Girard
Reichel, Mary Nina, L.....Saegertown
Reichel, Susie Ruth, L.....Saegertown
Rial, James Hugh, LS.....Greensburg
Richey, De Wayne Greenwood, L.....McKeesport
Robinson, Paul Agnew, C.....Robinson
Rosenberger, Andrew, S.....Meadville
Sansom, Dorothy, L.....Clarion
Schermerhorn, William Levi, S.....Conneautville
Senn, Florence Marie, L.....Forestville, N. Y.
Sheffer, William Elias, C.....Lamartine
Shelmadine, Marguerite Black, L.....Pleasantville
Sherwood, Margaret Madeline, S.....Meadville
Shields, Charles Frederick, L.....New Kensington
Smith, Lottie Vildena, L.....Guys Mills
Sparling, Clyde Vincent, C.....Irwin
Storer, Happer Beacom, C.....New Sheffield
Strauss, William Henry, E.....Saegertown
Strawn, Allen Eberhart, L.....Dawson
Strickland, Laura Frances, C.....Cattaraugus, N. Y.
Taylor, John Theodore, C.....Irwin
Thomas, Ruth Miriam, L.....Meadville
Thompson, Ada Belle, L.....Cochranton
Trosh, Franklin Brinton, L.....Oil City
Van Horn, John Dick, C.....Scottdale
Wagner, Lloyd George, L.....Charleroi
Weed, Mary Evelyn, L.....Warren
Weiss, Harry Maxwell, L.....McKeesport
Wells, William Hugh, S.....Wellsville, O.
White, Elma, L.....Meadville
Whiting, William Alonzo, S.....Conneautville

Whitney, Ernest C., S.....West Springfield
Wieler, Harry Julius, L.....Wheeling, W. Va.
Wilkinson, William Walter, S.....Meadville
Williams, Elsie Beth, L.....Meadville
Williams, Rose Green, L.....Girard
Winn, Charles Burton, E.....Basking Ridge, N. J.

Freshmen, 124.

SPECIAL STUDENTS.

Daniels, Edward Perry ..... Yarmouth, Me.
Eschelman, Ida Josephine ..... Meadville
Swift, Carrie Ladds ..... Franklin
Whittaker, Cosette ..... Cochranton

Special, 4.

SUMMARY.

	Men.	Women.	
Resident Graduates	..	1	1
Seniors	33	25	58
Juniors	36	28	64
Sophomores	57	31	88
Freshmen	83	41	124
Special	1	3	4
Total	210	129	339

DEGREES CONFERRED.

Bachelor of Arts.

William James Aiken.
Laura Edith Bethune.
Hazel Bullock.
George Henry Clulow.
Wilson Giffin Cole.
Benjamin Franklin Cousins.
William Charles Cravner.
Paul C. Deemer.
Cortlandt Whitehead Elkin.
Harry McKee Fishel.
Jessie Frances Fitch.
Edith Lucinda Fugate.
Mary Bertha Greene.
Harry Gearld Gregg.
Anna Walker Hayward.
Julia Mathilda Heibel.
Elizabeth Gladys Houghton.
Katherine May Illingworth.
Charles Wesley Johnson.
John Ridinger Keister.
Frank Lyle Knapp.
Charles Fletcher Lewis.
Lenore Lytle.
Florence May McKinney.
John Hudson McKinney.
Mary Elizabeth McLaughlin.
Sterling Glenn McNees.
William Jenkins McQuiston.
Ethel Mae Mills.
William Millward.
John Lynn Miner.
William Leighton Mould.
Mary Gertrude Nicholls.
Percy Paul Parsons.
Perry Blaine Schaffner.
Fred Albert Skellie.
Charles Franklin Stewart.
Frank Everhart Stewart.
Anna Tarr.
Grace Thomas.
Clara Wheeling.
Helen B. Cromwell White.

Bachelor of Science.

Lee Landseer Benedict.
Ralph Richard Cole.
Ralph Erskine Miller.
George Hutze Ruhling.

Doctor of Laws.

Enoch George Hogate.

Doctor of Divinity.

Rev. Sterling J. Miller.
Rev. William Palmer Murray.
Rev. Charles Lindley Smith.
Rev. Appleton Bash.

Master of Arts.

William Jewart Miller.
Myrta E. Mercill.

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA.
Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1909.

From the Senior Class.

Hazel Bullock.
Charles Wesley Johnson.
John Ridinger Keister.
Mary Nicholls.
Percy Paul Parsons.
Clara Wheeling.

From the Alumni.

Helen E. McClintock, '04.
Everett Franklin Phillips, '99.

Edwin Lee.

Annual Address, June 15, 1909.

Talcott Williams, LL. D.,
Subject, "The Old Learning and the New."

ALDEN ACADEMY.

This school is under the direct control and supervision of the college authorities, but has its own building and a distinct corps of instructors as well as its own independent government.

Alden Academy aims to prepare students for college with a minimum expenditure of time. It is realized that many students looking forward to a college course are precluded by age or by lack of early advantages from taking a regular four years' course in academy or in high school. Young men of maturity can by thorough application fit themselves for college in less time than is necessary for younger and less mature persons. Earnest and capable younger pupils may also in some cases gain time in fitting for college. The work is systematic and thorough, and every effort is made to enable the student to work to the best advantage. Under certain limitations students may take a part of their work in college classes. Students registered in the college also who are deficient in certain subjects can pursue these studies under skilled instruction and with every facility for accurate and thorough work.

A fine new building containing in addition to class rooms, an assembly room, society rooms, a physical laboratory, is used by the school.

All instruction is given by teachers of thorough preparation and successful experience.

Full particulars, including lists of the instructors and students, are found in the catalogue of the school, a copy of which will be sent on request to the Principal, Samuel B. Churchill, A.B.

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THE COLLEGE BULLETIN

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FEBRUARY, 1911

THE
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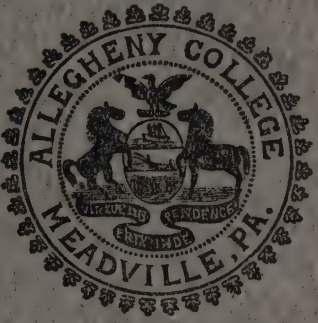
CATALOGUE
1910-1911



ALLEGHENY COLLEGE

FOUNDED IN 1815

NINETY-SIXTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1910-1911

MEADVILLE, PA.
1911

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES X, No. 1.
FEBRUARY, 1911.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1910-11,

AND ANNOUNCEMENTS OF COURSES FOR 1911-12.

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CALENDAR.

1911.

April 24, Monday—Founders' Day, a holiday.

26, Wednesday—Last day for presenting Senior Orations and Theses.

May 10, Wednesday—Choice of Senior Speakers.

30, Tuesday—Memorial Day, a holiday.

June 9, 10, 12, 13—Senior Examinations.

12, 13, 14, 15, 16, 17—Second Term Examinations.

18, Sunday, 10:45 a. m.—Baccalaureate Sermon by President William H. Crawford.

7:45 p. m.—Annual Sermon before the Christian Associations.

19, 20, Monday and Tuesday—Entrance Examinations.

19, Monday, 2:00 p. m.—Class Day Exercises.

3:00 p. m.—Annual Meeting of the Conference Board.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

7:30 p. m.—Phi Beta Kappa Address.

9:00 p. m.—President's Reception.

20, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.

4:00 p. m.—Organ Recital.

7:30 p. m.—Commencement Concert.

21, Wednesday, 9:30 a. m.—Commencement Exercises.

6:00 p. m.—Fraternity Banquets.

SUMMER VACATION.

1911.

Sept. 19, Tuesday—First Term Begins.

18, 19, Monday and Tuesday—Entrance Examinations.

19, Tuesday—Registration of New Students.

20, Wednesday—Registration of Old Students.

21, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 1, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

30, Thursday—Thanksgiving Day, a holiday.

Dec. 22, Friday, 12:30 p. m.—Recitations Close.

CHRISTMAS RECESS.

1912.

Jan. 10, Wednesday, 8:00 a. m.—Recitations Resumed.

17, Wednesday—Last Day for Presenting Senior Orations and Theses.

Jan. 26-Feb. 2.—First Term Examinations.

Feb. 2, Friday, 4:00 p. m.—First Term Ends.

Feb. 6, Tuesday—Second Term Begins. Registration of Students.

7, Wednesday, 8:00 a. m.—Recitations Begin.

8, Thursday—Wakefield Oratorical Contest.

22, Thursday—Washington's Birthday, a holiday. The College Dinner.

Mar. 6, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

April 5, Friday, 12:30—Recitations Close.

SPRING RECESS.

April 16, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Wednesday—Founders' Day, a holiday.

24, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Friday—Choice of Senior Speakers.

June 19, Wednesday—Commencement.

BOARD OF TRUSTEES.

Ex-Officio.

HIS EXCELLENCY JOHN K. TENER,
Governor of the Commonwealth.

HON. JAMES T. MITCHELL,
Chief Justice of the Supreme Court.

HON. JOHN C. BELL,
Attorney General.

HARVEY HENDERSON,	Allegheny
WILLIAM THOMAS,	Meadville
JOHN J. HENDERSON, LL.D.,	Meadville
THEODORE L. FLOOD, D.D., LL.D.,	Meadville
JONATHAN HAMNETT, D.D.,*	Meadville
WILLIAM S. FOLTZ,	New Castle
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REV. JOSEPH W. MILES, D.D.,	Greensburg
JOHN C. BARDALL,	Moundsville, W. Va.
FRANK A. ARTER,	Cleveland, O.
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JAMES W. KINNEAR,	Pittsburgh
GORTON B. CHASE,	Greenville
REV. THOMAS H. WOODRING, D.D.,	Tarentum
REV. ANDREW C. ELLIS, D.D.,	Oil City
REV. WILLIAM H. CRAWFORD, D.D., LL.D.,	Meadville
JOHN E. RIGG, M.D.,	Wilkinsburg
EDWARD APPLEYARD,	Jamestown, N.Y.
WESLEY B. BEST,	Meadville

*Deceased.

REV. THOMAS N. BOYLE, D.D., . . Crafton
JESSE C. MCDOWELL, ... Pittsburgh
JOHN V. RITTS, ... Butler
CHARLES MILLER, ... Franklin
JOHN S. CRAIG, ... Allegheny
AUSTIN BLAKESLEE, ... Du Bois
REV. NOBLE G. MILLER, D.D., . . Blairsville
TRUMAN D. COLLINS, ... Nebraska
A. M. SCHOYER, ... Pittsburgh
NELSON A. RIST, ... Dawson
JOHN J. CARTER, ... Titusville
REV. J. C. MCDONALD, ... New Castle
ARTHUR L. BATES, ... Meadville
SIMPSON S. FORD, ... Cleveland, O.
ROBERT B. WARD, ... Pittsburgh
C. E. WELCH, ... Westfield, N. Y.
BISHOP JAMES M. THOBURN, D.D., LL. D., Meadville
SARAH B. COCHRAN, ... Dawson
REV. ROBERT M. FRESHWATER, D.D., Cleveland, O.

Officers of the Board.

FRANK A. ARTER, ... President
JOHN J. HENDERSON, . . . Vice-President
JAMES P. COLTER, ... Secretary

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WILLIAM H. CRAWFORD, ... Chairman
JAMES P. COLTER, ... Secretary
FRANK A. ARTER.
WESLEY B. BEST ANDREW C. ELLIS

Treasurer of the College.

GEO. D. THOMAS, M. D.

FACULTY.

WILLIAM H. CRAWFORD, D.D., LL.D.,
PRESIDENT,
Professor of Ethics.

WILLIAM T. DUTTON, C. E.,
Francis Asbury Arter Professor of Mathematics and Civil Engineering.

WILLIAM A. ELLIOTT, A.M., L.H.D.,
Professor of Greek Language and Literature.

CLARENCE F. ROSS, A.M.,
Bradley Professor of Latin Language and Literature.
SECRETARY.

FRANK C. LOCKWOOD, Ph.D.,
Eliza Kingsley Arter Professor of English Language and Literature.

ROBERT S. BREED, Ph.D.,*
Professor of Biology and Geology.

GEORGE A. MULFINGER, Ph.D.,
Professor of German Language and Literature.

* Absent on leave, Sabbatic year.

CAMDEN M. COBERN, Ph.D., Litt.D.,
James M. Thoburn Professor of English Bible and Philosophy of Religion.

CHARLES J. LING, Ph.D.,
Professor of Physics and Astronomy.

OSCAR P. AKERS, Ph.D.,
Professor of Mathematics.

EDWIN LEE, A.M., M.Sc.,
Professor of Chemistry.

GUY E. SNAVELY, Ph.D.,
Professor of Romance Languages and Literature.
REGISTRAR.

CHARLES E. DECKER, A.M.,
Acting Professor of Biology and Geology.

ALICE HUNTINGTON SPALDING,
Instructor in Expression and Physical Training.
ACTING DEAN OF WOMEN.

HARRISON A. TREXLER, Ph.B.,
Acting Professor of History and Economics.

STANLEY S. SWARTLEY, A. M.,
Instructor in English.

HAZEL J. BULLOCK, A.B.,
Instructor in French.

EDWARD J. STEWART,
Physical Director.

EDITH ROWLEY, A.B.,
Librarian.

F. LEE MICKLE,
Laboratory Assistant in Chemistry.

J. FRANK SAYRE,
Laboratory Assistant in Biology.

COMMITTEES OF THE FACULTY.

Registration.

THE PRESIDENT — THE REGISTRAR
PROFESSOR ROSS — PROFESSOR MULFINGER
PROFESSOR COBERN

Courses of Study.

PROFESSOR ELLIOTT — PROFESSOR DUTTON
PROFESSOR LOCKWOOD — PROFESSOR MULFINGER
PROFESSOR LING

Administration.

THE PRESIDENT — PROFESSOR ELLIOTT
PROFESSOR DUTTON

College Organizations.

PROFESSOR AKERS — PROFESSOR ROSS
PROFESSOR LOCKWOOD

Library.

PROFESSOR LOCKWOOD — PROFESSOR MULFINGER
PROFESSOR ELLIOTT

Graduate Instruction.

PROFESSOR MULFINGER — PROFESSOR LING

Athletics and Gymnasium.

DIRECTOR STEWART — PROFESSOR DUTTON
PROFESSOR LEE

Accredited Preparatory Schools.

PROFESSOR ROSS — PROFESSOR SNAVELY
PROFESSOR DECKER

College Book Store.

PROFESSOR LEE

Catalogue.

PROFESSOR SNAVELY — PROFESSOR LEE
PROFESSOR AKERS

College Council.

PROFESSOR LING — PROFESSOR AKERS

DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 Rev. Martin Ruter was elected to the presidency, since which time the College has been under the general patronage of the Methodist Episcopal Church. It has always been understood, however, both by the trustees of the College, and by its patrons, that the institution is to be conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie, and Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of more than twelve thousand. It is an old and well established town with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved

streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, illuminating and natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of ravines of wild and rugged beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of Botany and Geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with granolithic walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the College.

Bentley Hall bears the name of Rev. William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the College. The corner stone

was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the College and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies with their libraries.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of Rev. Martin Ruter, D.D., the second president of the College, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the College. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the departments of Mathematics and Civil Engineering. The third floor is occupied by the department of Biology. Two laboratories, an office, a store room, a library and a lecture room occupy this floor.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women, and accommodates about eighty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear

wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full line of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheatre lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in plan, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there is an assembly room, and also a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D.

C. Newton, once a student in the College. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. The cost of the building was $34,000. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals, and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902 at a cost of over $40,000. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and department seminar rooms. The interior

appointments of the library are entirely in accord with the artistic character of the building.

Alden Hall. This building is one of the latest additions to the group of college buildings, and is to be devoted to the uses of the department of Chemistry. It is built of gray vitrified brick and terra cotta, in English school style, with three floors and a basement. The building is commodious and well lighted. It contains ten rooms, and will be well equipped with such apparatus as is necessary to the successful prosecution of work in the department. The laboratories will be ready for occupancy by the department at the opening of the school year 1911-12.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., amounting to over sixty thousand dollars, provision has been made for a College Commons for young men. The building is constructed of brick with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first class boarding accommodations, and at reasonable rates, but constitutes a rallying center for the young men of the College. Apart from the dining room and dormitory features of the building there are rooms for the Young Men's Christian Association which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading,

and social room there are an office for the secretary, a committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room, a general laboratory, special laboratories for heat, light and electricity, two dark rooms, the professor's office, and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. At the opening of the coming college year, the department of Chemistry will be transferred from Wilcox Hall to the new building formerly occupied by Alden Academy. The building will be known in the future as Alden Hall. It consists of ten rooms, and will be devoted in its entirety to the uses of the department of Chemistry.

On the first floor will be located the private office and laboratory of the head of the department, a room for technical collections, a reading room containing the department library, cloak rooms, and a large, well-ventilated lecture-room with complete equipment for experimental and illustrated lectures. On the second and third floors will be found balance rooms, separate laboratories for general chemistry, organic chemistry, analytical chemistry, gas analysis, physical chemistry,

and a dark room for photochemistry. In the basement will be found the store-room and laboratory preparation room.

All of the laboratories will be well lighted and ventilated, and amply provided with facilities for various kinds of chemical work.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was made by Brashear, of Allegheny, Pa., and with a smaller instrument, with a seven and one-half inch aperture, made by Alvin Clark and Son, mounted for the special use of students. Other equipment includes a transit, a chronometer, a sextant, and a siderial clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the College. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by Geo. N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment which will enable the department to offer work to the student that will be comparable

with other observatories having a glass of like capacity.

Engineering Apparatus. In Mathematics and Engineering all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories are placed on the third floor of Ruter Hall where there is ample space and good light. The main laboratory receives the direct north light and is fitted with tables and microscopes for twenty students. In the same room are placed a large aquarium table fitted with running water, other tables for balanced salt and fresh water aquaria, and cases containing the herbarium and other material used in the laboratory work. The other half of the floor is divided into a lecture room, an office, a store room, and a smaller laboratory for advanced students. The lecture room contains cases for a collection of animals, charts, models, etc., used in lectures. The library, consisting of three hundred well selected volumes, is placed in two cases, one in the larger and one in the smaller laboratory. The smaller room is fitted with all needed histological, embryological, and bacteriological apparatus.

The Geological Laboratory. During the past few years this department has used the biological laboratories for geological and mineralogical laboratory work. A small adjoining room has been fitted up for a geological library and serves also for the storage of the topographical maps and other supplies used in the laboratory work. A fine new polarizing microscope

has just been purchased and the nucleus of a collection of rock slides started.

The Collections of the Natural History Museum are placed on the first and third floors of Ruter Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens including some type forms. The mineralogical collections have been entirely rearranged and relabeled during the past few years and the more than eight thousand specimens form one of the finest collections to be found in the entire state and serve as a splendid basis for the course in mineralogy recently established. The geological collections include the Smithsonian collection of rocks and rock forming minerals as well as many other specimens, while the paleontological collection includes the series of Ward casts and many originals. Within the past few years, the nucleus of an exceedingly interesting and valuable collection of local fossils has been obtained largely through the efforts of William Millward, of the Class of 1909.

The zoological collections consist of several thousand specimens which are kept in cases on the first and third floor. The collections of invertebrates preserved in fluid, shells, and mounted birds are all very useful for the courses in Zoology. A herbarium which includes most of the local flora is placed on the third floor.

The museum is open to the public every Saturday, while the college is in session, from one to three p. m. At other times visitors are admitted on application to the custodian.

THE LIBRARY.

The Library contains 25,000 bound volumes, 3,000 volumes of periodicals and a large number of unbound pamphlets, in all about 35,000 printed productions. The additions to all departments for 1909-10 were 3,144. The books are classified according to the decimal system. A dictionary card catalogue and other modern facilities for convenient use are provided. The reference room shelves about 2,000 volumes of books "reserved" for the various departments together with the dictionaries, encyclopedias and general reference works. These are in the latest editions and new works are added each year.

The administration aims to make the Library not only an auxiliary to the class instruction, but the center of the intellectual life of the College. The classical, literary and scientific clubs have headquarters in the building and rooms are set aside for advanced classes studying along special lines. The rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number. The reading room regularly receives nearly one hundred periodicals, including local papers, dailies, and the best weeklies both religious and secular. An exchange table of college publications is supplied by the Campus and the Literary Monthly.

The Library is a government depository and also receives the state publications. Each department has an annual appropriation for the purchase of the latest technical and reference works. The access to such a wide range of books and periodicals, the training in the use of catalogues, bibliographies and reference

works, and the wide range of technical and general periodical literature available are of great advantage to the student. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are also maintained with several other libraries. The Meadville Theological School extends library privileges to this College, and the students have access to the Meadville Public Library containing over 12,000 catalogued volumes.

The Library is open during the college year from 8 a. m. to 5:30 p. m. and three evenings a week.

GENERAL PURPOSE.

This institution is a college, not a university. It therefore does not undertake to fit the student to enter any profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for such professions.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. The training of a college does not teach a man how to do business successfully, but it does prepare him to learn any business rapidly, and to attain large success, if he has the requisite talent.

REQUIREMENTS FOR ADMISSION.

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit.*

No science subject shall be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exception may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	4
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be credited, unless continued further in college.

History	1	3
Ancient	..	1
Mediaeval and Modern	..	1
English	½	1
United States	½	1
Civics	..	½

Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	3
Botany	..	½
Zoology	..	½
Biology	..	1
Chemistry	..	1
Physics	..	1
Physiography	..	½
Physiology	..	½
Geology	..	½

Botany and Zoology may not be counted if Biology is offered.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to Groups I. and II. these 4 units must be in Latin; to Groups III. and IV., two units must be in Latin; to Groups V., VI., VII., and VIII., IX., there is no restriction concerning the Latin.

The various groups are described on pp. 40-46.

For conditional admission in the aforementioned Latin prerequisite see page 77.

DESCRIPTION OF UNIT REQUIREMENTS.

ENGLISH. The following is a definition of Units one, two, three and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Reading from the list of required Readings below.

(Unit four) A History of English Literature with additional readings from the English Classics.

Reading and Practice. A limited number of books are assigned for reading. The candidate is required to present evidence of a general knowledge of the subject-matter of these books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and calls for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified to by his instructor, containing composition or other written work done in connection with the reading of books. In preparation for this part of the requirement it is important that the candidates shall have been instructed in the fundamental principles of rhetoric.

The books set apart for the examination will be:—

In 1911—Group 1 (two books to be selected), Shakspere's As You Like It, Henry V., Julius Caesar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected), Bacon's Essays; Bunyan's Pilgrim's Progress, Part I.; the Sir Roger de Coverley Papers; Franklin's Autobiography.

Group 3 (one book to be selected), Chaucer's Prologue; Selections from Spencer's Faerie Queene; Pope's Rape of the Lock; Goldsmith's Deserted Village; Palgrave's Golden Treas-

ury (First Series), Books II. and III., with special attention to Dryden, Collins, Gray, Cooper, and Burns.

Group 4 (two books to be selected), Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe and Quentin Durward; Hawthorne's The House of Seven Gables; Thackeray's Henry Esmond; Gaskell's Cranford; Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group 5 (two books to be selected), Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, and The English Mail-Coach; Carlyle's Heroes and Hero-Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group 6 (two books to be selected), Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV., with special attention to Wordsworth, Shelley, and Keats; Macaulay's Lays of Ancient Rome; Poe's Poems (selected); Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Browning's Poems (selected).

Study and Practice. A smaller number of books are assigned for more careful study. The examination based on these books covers subject-matter, form, and structure, and also tests the candidate's ability to express his knowledge with clearness and accuracy. In addition, the candidate may be required to answer questions involving the essentials of English grammar and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination will be:—

In 1911—Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

MATHEMATICS.—*Elementary Algebra.* (One unit or one and one-half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and a half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much of mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One-half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One-half unit.) A somewhat more extended treatment in review of the important topics of Elementary Algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maximum and minimum, and simultaneous quadratic equations,) ratio, proportion, the progressions and the binomial theorem for positive integral exponents. In addition to these, the following topics should be included: permutations and combinations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One-half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent of

the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solution of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the College:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to College, without regard to the prescription of particular authors and works, shall be not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Achias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Caesar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. *Translation at Sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. *Grammar and Composition.* The examinations in grammar and composition will demand thorough knowledge

of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: Elementary Latin Book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romae, one unit; Caesar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—First Greek Book and at least six chapters of Book I of Xenophon's Anabasis. (One unit.)

Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books V, VI, and VII, or Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer.

Prose composition based on the texts read. (One unit.)

Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic form and prosody. About thirty pages of Attic prose with composition based thereon. (One unit.)

Throughout the work in Greek emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in College should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A. and in one year be prepared to enter Greek I.

GERMAN.—The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises in conversation; and the reading of from seventy to

one hundred pages of a graduated text from a reader or from editions of easy texts. (One unit.)

2. The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages. (One unit.)

3. The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and participial constructions. (One unit.)

4. The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann and Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing. (One unit.)

FRENCH.—First year French should comprise the following: (1) Careful drill in pronunciation, which should be re-enforced by dictation and conversation in the classroom. (2) Study of the Grammar, including the more usual irregular verbs; the grammar work in Part I of Fraser and Squair's French Grammar would be sufficient. (3) Regular practice in putting simple idiomatic sentences into French. (4) Reading of about two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc. (One unit.)

Second year French should include: (1) Continued work

in dictation. (2) Memorizing of short poems. (3) Further practice of turning English into idiomatic French. (4) More detailed study of grammar, such as is contained in Fraser and Squair, Part II. (5) Reading of some three hundred pages of standard French of gradually increasing disfficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc. (One unit.)

Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc. (One unit.)

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIAEVAL AND MODERN.—(One unit.) Texts, Myers, Robinson.

ENGLISH HISTORY.—(One-half or one unit.) Cheyney, Larned.

AMERICAN HISTORY.—(One-half or one unit.) Channing, Fiske, McMaster.

CIVICS.—(One-half unit.) Fiske, Hart.

FREE-HAND DRAWING.—(One-half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects such as a house, a small piece of machinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, will be accepted.

MECHANICAL DRAWING.—(One-half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least

twenty plates, illustrating the elements of Descriptive Geometry or of simple machine parts, will be accepted.

BIOLOGY.—(One unit.) The history of Biology, the forms of matter, organic and inorganic, living and lifeless; comparison of plant and animal characteristics; plants and animals by classes from the lowest to the highest forms; plant and animal cells and tissues; animal organs; the development of individual plants and animals; the distribution of plants and animals in space and time, and their relation to surroundings; evolution of animals and plants.

Laboratory. Two hours per week for one year. One or more animals and plants typical of each branch, class, or subclass should be studied and drawings made; collection of forms representing as many classes as possible should be made by the student in the field and brought to the laboratory for study and classification. Coulter's Text-book of Botany, 1908; Galloway's Elementary Zoology, 1910.

ZOOLOGY.—(One-half unit.) The forms of matter and life; characteristics distinguishing animals from plants; animals by branches and classes from the lowest to the highest forms; the cells, tissues and organs of animals, and function of parts; the development from the egg of some animal, as the Starfish; the evolution of animals; the distribution of animals in space and time; the animals of economic importance, injurious, helpful.

Laboratory. Two hours per week for a half year. One or more forms typical of each branch of animals should be studied and drawings made; cell division; the development of a form like the Starfish; locomotor reactions of a form like the earthworm. Animal Studies, Jordan, Kellogg & Heath; Galloway's Elementary Zoology, 1910.

BOTANY—(One-half unit.) The study of plants by classes from the lowest to the highest forms; the leaves, stems, roots, tissues of plants, the life history of forms like the Oat Rust and White Pine; the distribution of plants with reference to soil, temperature and moisture; plants of economic importance, harmful and beneficial.

Laboratory. Two hours per week for one-half year. One or more plants typical of each class or sub-class should be studied and drawings made, and several collections by the student in the field should be brought to the laboratory for study and classification. Coulter's Text-book of Botany.

GEOLOGY.—(One-half unit.) The materials of the earth, the work of the atmosphere, ground-water, running-water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geologic periods from the Archæozoic to the present.

Laboratory. Two hours per week for half a year. The common rock-forming materials; the classification of rocks; topographic maps and geologic folios illustrating the geologic processes and the distribution, nature, and structure of rocks of the different periods; the fossil plants and animals most typical of each period. Norton's Elements of Geology, or Brigham's Text-book of Geology.

PHYSIOGRAPHY.—(One-half unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions.

Laboratory. Two hours per week for half a year. Rocks with reference to inequality of hardness and the formation of soils; topographic maps and geologic folios illustrating the various topographic features of the land; weather maps; observations and record of the weather. Salisbury's Briefer Course in Physiography, or Gilbert and Brigham's Physical Geography.

CHEMISTRY.—(One unit.) The candidate's preparation in Chemistry should include: (a.) The study of at least one standard text-book on General Chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of Elementary Chemistry. (b.) Individual laboratory work, comprising at least forty exercises. The laboratory note-book, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the

class work demanded for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements or Carhart & Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

ADMISSION WITH CONDITIONS.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the freshman class conditionally, but not if the sum of their deficiencies exceeds a half year's work, nor if in the judgment of the Registration Committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter. Under certain fixed restrictions, credit may be obtained on entrance for work done in college subjects and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the College are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the Faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the First Term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in place of examinations in all subjects.

ADMISSION BY CERTIFICATE.

In place of examinations in studies required for admission to College, certificates will be accepted from approved high schools having a regular four years' course in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course provided they pass entrance examinations of not less than three units additional to their certificate.

Certificates will not be accepted in case of students who are not graduates of the school from which the certificates are presented. *But students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools

placed on the approved list are invited to address the President of the College.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should also bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismission will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

	First Term.	Second Term.
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Mathematics or Science	3 or 4	3 or 4

One course from each of two of the following departments:

Latin, Greek, French, German, History.

These two courses will count as part of the student's Group Electives as detailed on pp. 41, 42.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I. he should choose Latin and Greek.

For Group II. he should choose Latin or Greek and German or French.

For Group III. he should choose French and German.

For Group IV., if he is to do his major work in History, he should choose History and Latin or Greek or French or German. If he is to do his major work in English, he may choose any two of the subjects.

Not less than fifteen and not more than seventeen hours are to be taken weekly.

SOPHOMORE YEAR.

	First Term.	Second Term.
English II.	3	..
*Mathematics Science or	4 or 3	4 or 3
History or Economics or Political Science	3	3

Group Electives [See pp. 41, 42] to make not less than fifteen and not more than seventeen hours weekly.

* Candidates for the degree of Bachelor of Arts are required to take fourteen hours of mathematics or science, or fourteen hours of mathematics and science, i. e., this entire number of hours may be elected from mathematics or from science, or part from mathematics and the remainder, enough to make fourteen hours, may be elected from laboratory science subjects.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy I., II.	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis the first term and an oration the second term. See page 87.

Group Electives and Free Electives chosen from the list on pages 88-91 to make a total for the course of not less than one hundred twenty term-hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of Groups I., II., III., IV., in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 99.

Group I.

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.

3. In a third department, English, History, Economics, Political Science, Philosophy, French or German .....14 hrs.
4. In a fourth department, English, History, Economics, Political Science, Philosophy, French or German ..... 6 hrs.

Group II.

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French or German.....14 hrs.
3. In a third department, English, History, Economics, Political Science, Philosophy, Latin, Greek, French, or German .....14 hrs.
4. In a fourth department, English, History, Economics, Political Science, Philosophy, Latin, Greek, French, or German ..... 6 hrs.

Group III.

1. In one department, French or German.....20 hrs.
2. In a second department, German or French.....14 hrs.
3. In a third department, English, History, Economics, Political Science, Philosophy, Latin, or Greek..14 hrs.
4. In a fourth department, English, History, Economics, Political Science, Philosophy, Latin, or Greek ..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

Group IV.

1. In one department, English, History, or Philosophy.20 hrs.
2. In a second department, English, History, Economics, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, French, or German .....14 hrs.
4. In a fourth department, Latin, Greek, French, or German ..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science.

FRESHMAN YEAR.

	First Term.	Second Term.
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Foreign Language: French, German, Latin, or Greek	4	4
Mathematics I.	3	3
Science—Biology, Chemistry, or Physics	4	4

This course will count as part of the student's Group Electives as detailed on p. 45.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group V., he should choose Biology.

For Group VI., he should choose Chemistry.

For Group VII., he should choose Physics.

For Group VIII., he should choose any one of the subjects.

SOPHOMORE YEAR.

	First Term.	Second Term.
English II.	3	..
History or Economics or Political Science	3	3
Foreign Language, continuing the Language taken in the freshman year	4 or 3	4 or 3

Group Electives [See page 45] to make not less than fifteen and not more than seventeen hours weekly.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy I., II.,	3	3

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis the first term and an oration or a thesis the second term. See page 87.

Group Electives and Free Electives chosen from the list on pages 87-91 to make a total for the course of not less than one hundred twenty term hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of Groups V., VI., VII., or VIII., in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 99.

Group V.

1. Biology .....20 hrs.
2. Chemistry .....14 hrs.
3. Physics ..... 8 hrs.

Group VI.

1. Chemistry .....20 hrs.
2. Biology or Physics .....14 hrs.
3. Biology or Mathematics or Physics..... 8 hrs.

Group VII.

1. Physics .....20 hrs.
2. Chemistry .....14 hrs.
3. Mathematics ..... 8 hrs.

Group VIII.

1. Mathematics .....20 hrs.
2. Physics .....14 hrs.
3. Biology or Chemistry ..... 8 hrs.

Engineering Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Mathematics I.	3	3
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Chemistry I.	4	4
Graphics I., II.	4	4
	16	16

SOPHOMORE YEAR.

Mathematics II.	4	4
Physics I. and II.	6	6
English II.	3	..
Engineering I., II.	3	3
Graphics III.	..	3
	16	16

JUNIOR YEAR.

Physics III.	2	2
Graphics IV., V.	3	3
Engineering III.	3	..
Engineering IV.	3	3
Graphics VI.	..	3
Chemistry II.	3	3
	14	14

SENIOR YEAR.

Engineering V., VI.	4	4
Engineering Chemistry	4	4
Geology	3	..
Astronomy I.	3	..
Astronomy II.	..	2
Engineering VII.	..	4
	14	14

COURSES OF INSTRUCTION

BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as specially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy have two objects in view. Course I. is a general descriptive course, designed to give the student a comprehensive view of the science and to acquaint him with the history of the growth of the universe, and the laws which govern its members. It also gives the student an opportunity to study the members of the solar system, the moon, star clusters, and nebulae, with the nine-inch equatorial in the Newton Observatory. Course II. is practical, and is intended primarily for engineering students.

COURSE I.—Elements of Descriptive Astronomy. A study of the earth and its relation to the other members of the solar system; the laws which govern the phenomena of the solar system; and a general descriptive outline of the heavenly bodies.

First term, three hours.

COURSE II.—Field Astronomy. Determination of time, latitude, and longitude, by the transit, sextant and chronome-

ter. Open to those who have completed Trigonometry, Astronomy I., and the first term of Physics I.

Second term, two hours.

COURSE III.—Advanced Descriptive Astronomy. A more detailed and advanced study of the topics presented under Course I. Open to students who have completed Trigonometry, Physics I. and Astronomy I.

Second term, three hours.

COURSE IV.—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

COURSE V.—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have completed Mathematics II., Physics I., and Astronomy I., and may be begun either first or second term.

Throughout the year, three to five hours.

BIOLOGY.

In the presentation of the courses of this department, the broadest aspects of the living world are kept continuously in mind. The fundamental course on which all of the others are based (Course I.) presents a view of the whole field of living things and their relationships to each other, together with the main underlying laws which govern this kingdom. The remaining courses are intended to serve the purposes of students fitting for special lines of work, but an effort is made in all of them to so direct and train the powers of observation in the student that any or all of them have a true cultural value.

GENERAL BIOLOGY.

COURSE I.—Elementary Biology. After a discussion of the field to be covered, the work of the first term is largely zoological in character. During the second term, the course deals with the plant kingdom, ending with a discussion of the laws which have governed the development of the two kingdoms. The laboratory work consists of the study of a series of typical animals and plants together with introductory work in various divisions of the biological sciences such as morphology, physiology, embryology and ecology. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

Throughout the year, four hours.

COURSE II.—Historical and Theoretical Biology. This course takes up the development of the main biological laws and theories from a historical standpoint. Open to students who have taken Course I. and who are taking advanced courses in the department. Required of all students who take more than two courses in the department.

Throughout the year, one hour.

ZOOLOGY.

COURSE III.—Invertebrate Zoology. The external and internal morphology of a series of typical invertebrate animals which are dissected in the laboratory. Open to those students who have had Course I. or a satisfactory course in high school zoology. See Course VII. Lectures, two hours a week; laboratory work, four hours a week.

Second term, four hours.

COURSE IV.—Comparative Anatomy of Vertebrates. The dogfish, salamander, turtle and cat are dissected and studied in this course. Recommended for all students who are planning to study medicine or who expect to teach physiology. Open to all who have taken Course I. Lectures, one hour a week; laboratory work, four hours a week.

Throughout the year, three hours.

COURSE V.—Vertebrate Histology. Training in the preparation of tissues for examination with the microscope, and the

study of general histology. Elective for all who have taken Course III. or IV. Laboratory work with occasional lectures, eight hours a week.

First term, four hours.

COURSE VI.—Vertebrate Embryology. A study of the development of the chick. Many of the slides studied are furnished, but the student is required to prepare whole mounts and serial sections. Laboratory work with occasional lectures, eight hours a week. Elective for all who have had Course V.

Second term, four hours.

BOTANY.

COURSE VII.—Plant Anatomy and Physiology. The structure and functions of plant tissues and organs. This course forms a year's work with Course III. and is open to students who have had Course I. or a satisfactory course in high school Botany. Lectures, two hours a week; laboratory work, four hours a week.

First term, four hours.

COURSE VIII.—Cryptogamic and Phanerogamic Botany. The study of a series of typical plants. Open to students who have had Course I. Lectures, one hour a week; laboratory work, four hours a week.

Throughout the year, three hours.

Not given in 1911-12.

COURSE IX.—Elementary Bacteriology. A course which deals with this interesting and important group of plants in their general biological relationships with training in elementary bacteriological technique. Open to students who have had Course I. and Chemistry I. or its equivalent. Lectures, one hour a week; laboratory work, four hours a week.

First term, three hours.

COURSE X.—Bacteriological Water and Milk Analysis. This course should be taken in connection with Chemistry VII. Open to students who have had Course IX. Laboratory work with occasional lectures, six hours a week.

Second term, three hours.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I.—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-book: Lee's Text-Book of Experimental Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

Throughout the year, four hours.

COURSE II.—Analytical Chemistry.—Qualitative Analysis. —Bases and Acids. The student is required to work through a system of preliminary analytic reactions. The more intimate knowledge of the elements and their compounds thus gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the manual. This course includes a brief course in Spectrum

Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course I., or its equivalent.

Throughout the year, three hours.

COURSE III.—Analytical Chemistry.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric and volumetric analysis as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis.—A brief course in electrolytic methods of analysis is included in this course.

Laboratory work, eight hours per week. All laboratory work is supplemented by lectures. Open to those who have completed Course II., or its equivalent.

Throughout the year, four hours.

COURSE IV.—Gas Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the density of gases, with the volumetric and barometric methods of determining the composition of various gases, and with many modern practical applications of gasometric apparatus. Lectures and laboratory work eight hours a week for one term. Open to students who have completed, or are taking, Course III.

First or Second term, four hours.

COURSE V.—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic chemistry, and a consideration of such topics as, the nature of carbon, homology, isomerism, stero-isomerism, types of formulae, nomenclature, and classification of organic compounds. The compounds of the *aliphatic* and *aromatic* series are then studied in detail. Those compounds and processes

which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI. should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI.—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation and purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determinations of molecular weights; and with the general methods of preparation, such as etherification, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, qualitative determinations of carbon, hydrogen, nitrogen and the halogens. Laboratory work, six hours per week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII.—Sanitary Analysis. This course deals with the chemical methods used in the analysis of milk, the sanitary analysis of water, and the examination of sewage. The analysis of air and fuel gases is included in this course. Six hours laboratory work per week. Open to those who have completed Course III.

Throughout the year, three hours.

COURSE VIII.—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the

analytical methods in use in commercial laboratories. Two lines of work are open to the student: (a) the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke and coal, and water; (b) the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants. A special course in Toxicological Analysis is offered to students preparing for the study of medicine. Chiefly laboratory work, eight hours per week.

Throughout the year, four hours.

COURSE IX.—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductivities, refractive indices, and an experimental study of various other physical and chemical constants. Six hours per week.

Throughout the year, three hours.

COURSE X.—History and Development of Chemical Theory. This course endeavors to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparations of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI.—Engineering Chemistry. The work of this course has been outlined to meet the wants of those students pursuing engineering courses.

Throughout the year, four hours.

ECONOMICS.

Particular attention is given to the study of the development of economic life and institutions, Amer-

ican conditions being specifically analyzed. Students are made familiar with the accepted principles of the science and are given a practical acquaintance with the complex modern economic organization. Encouragement is also offered to individual research, leading to possible future specialization. Lectures, papers, and comparative examination of various authorities constitute the method of instruction.

COURSE I.—Principles of Economics. Introductory survey of industrial history, production and distribution, compassing the accepted elements of the science. The text used is Saeger's Economics, and required readings are assigned in Marshall's Principles of Economics and in the Austrian authorities.

First term, three hours.

COURSE II.—Applied Economics. This is a continuation of Course I. and is a detailed examination of the economic principles applied in trusts, labor, tariff, taxation, and finance. Social economics as presented in Wright's Practical Sociology is included. Lectures, conferences, papers, and individual investigations are the methods of instruction.

Second term, three hours.

COURSE III.—Economic Theories. History of the development of economic thought, including a study of the leading principles of the science as propounded in Adam Smith, Ricardo, Mill, Senior, Menger, Wieser, Böhm-Bawerk, Walker, and Clark. The seminar method is used. Open to a limited number of those who have completed Courses I. and II.

First term, two hours.

COURSE IV.—Transportation. A course of lectures on the American Railway—a study of railway economics and the problems of government regulation. An extensive use is made of the Inter-State Commerce Commission findings and national industrial data. Open to advanced students.

Second term, two hours.

ENGINEERING.

The instruction in this department covers the technical subjects that form the basis of engineering work. Constant use is made of instruments and much of the work consists of actual field work. With the exception of Course II., the courses are open only to students of the Civil Engineering Group.

COURSE I.—Highway Engineering. Methods of constructing Macadam, Telford, gravel and earth roads; wood, stone, brick and asphalt pavements for cities; and the method of maintaining country roads and city pavements.

First term, three hours.

COURSE II.—Surveying, with the compass, transit and level. The methods of determining areas. Laying out and dividing land. City surveying and plotting.

Second term, three hours.

COURSE III.—Railroad Surveying. This course includes a thorough study of railroad curves and earthwork. A complete survey is made for a railroad line about a mile in length. This survey includes the reconnaissance, preliminary and location surveys, the staking out of curves and earthwork and the necessary maps and computations.

First term, three hours.

COURSE IV.—Strength of Materials. This course includes a study of the strength and elasticity of beams and columns, with the applications of mechanics to design.

Throughout the year, three hours.

COURSE V.—Masonry Construction. This course includes instruction in the properties of the component materials and the details of construction for foundations, retaining walls and dams, together with the calculations for the stability of the same.

Second term, three hours.

COURSE VI.—Structural Engineering. This course includes a study of scientific engineering construction, with application to roof and bridge trusses, with the determination of the dimensions and details of the same. Design of a simple highway bridge with working drawings.

Throughout the year, four hours.

COURSE VII.—Reinforced Concrete. This course includes a study of the properties of cement and of the principles of reinforced concrete construction, including the general theory and applications to engineering structures.

Second term, three hours.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I.—A General Introduction to the English Bible. A brief sketch of the history of the Hebrew and Greek Bibles is offered and the evolution of the English Bible traced in detail and illustrated by rare original copies of the early translations. The course includes the history of the Hebrew people as told by their own chroniclers. A general survey of the different types of literature to be found in the Old and New Testaments will be given, especial attention being directed to the picturesque biography and to the historical crises which vitally affected the development of the nation. In connection with this the geography of the Holy Land and

the chronology of the historic and prophetic eras will be studied. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Moulton's "Modern Reader's Bible" will be used as text-book, but much of this course will be given in lectures which each student is required to keep in carefully written note-books which at intervals will be examined by the instructor in English.

Throughout the year, two hours.

COURSE II.—New Testament History and Literature. Stress is here laid on the importance of understanding the political and religious background of the life and thought embodied in the New Testament. To this end the Maccabean and Roman periods of Jewish history are carefully studied. The new light thrown upon the "Land and the Book" from recent explorations will be examined, and the social and industrial condition of the world in the times of Jesus and St. Paul noted. The relation of the Christian religion to the Old Testament religion and to the Greek and Persian mysteries will be traced. The Gospels and the Acts will be studied both from the historical and literary standpoint and the development of church life and thought will be carefully examined. The Epistolary and Apocalyptic literature will be studied in the order of its development and with constant reference to the new discoveries of contemporaneous documents. Open to those who have taken Course I.

Throughout the year, two hours.

Given in 1911-12.

COURSE III.—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to 165 B. C. is studied in connection with the life and development of the Hebrew people. The international connections with Egypt, Phoenicia, Syria, Assyria and Babylon are briefly traced and the political, social and religious influence noted. The marked eras of the nation's growth are sharply defined from the Conquest to the Exile and the later origin of Judaism explained. The Old Testament literature is taken up in the

order of its historic development and its relation to the life, thought and external history of the Israelites is brought out. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relations of the Bible to Science are here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. The latest results of Archaeology are made available. Particular attention is given to the origin, growth and character of the legal and wisdom literature and to the theology of the Prophets. A few of the greatest masterpieces, such as Job, Ecclesiastes, etc., are studied in detail.

Throughout the year, three hours.

Given in 1910-11.

ENGLISH LANGUAGE AND LITERATURE.

The aim of this department is to fit the student to use the English language as an instrument for the easy, idiomatic, and energetic expression of his thought; to train him, both by theory and by practice, for natural and effective public address; to acquaint him with the essential facts in the development of the English language and literature, and with the great authors who have created that literature; and to render him sensitive to the literary and aesthetic values of life. Rigorous and painstaking habits of scholarship are constantly inculcated; but the student is never allowed to forget that literature is vital—that it draws its subject-matter and its inspiration from life, and in turn transmutes the crude and imperfect forms of life into beauty and character.

COURSE I.—The Elements of Rhetoric together with Selected Readings in English Literature. The chief purposes of this course are to train the student in the use of easy, precise, and idiomatic English, and to foster an interest in the best

examples of English literature. It is believed that successful instruction in rhetoric depends not so much upon precept as upon example and practice; the student is, therefore, encouraged to write freely upon subjects that appeal to him, and that spring naturally from the interests and activities of his daily life. The instructor corrects each paper in detail, and makes appointments with each student for private consultation. The instruction is made extremely flexible, and freshness and variety of method are constantly sought.

Throughout the year, two hours.

COURSE II.—Advanced Rhetoric. A careful study of the four great forms of discourse, Narration, Description, Exposition, and Persuasion. The method of instruction is both critical and constructive. Lectures, text-book, and class discussion. Fortnightly themes are required; and provision is made for private consultation with the instructor.

First term, three hours.

COURSE III.—Introduction to English Literature. 1. An outline history of the development of English literature. 2. Collateral reading. 3. The study and interpretation, in class, of Shakspere's Hamlet, Milton's Minor Poems, and Pope's Rape of the Lock. Oral recitation, lectures, class discussion, and written tests.

Open to all students who have completed Course II., and required of all who desire to do advanced work in English.

Second term, three hours.

COURSE IV.—English Poetry from 1789 to 1832. Copious readings from the poetry of Burns, Wordsworth, Scott, Byron, Shelley, and Keats. The constant aim is to arouse in the mind of the student an intelligent enthusiasm for the great poetry of the period; and, while holding him to accurate and diligent scholarship, to show him how life and literature interpenetrate.

Open to those who have completed Courses I., II., and III.

Throughout the year, three hours.

Given in 1911-12.

COURSE V.—The Victorian Period of English Literature. Landor, Carlyle, Tennyson, Arnold, Ruskin, and Browning. Conducted in the same manner as is Course IV., with which it alternates.

Throughout the year, three hours.

Given in 1912-13.

COURSE VI.—Elements of Literary Criticism. Winchester's Principles of Literary Criticism. A systematic inquiry into the essential elements of literature, and a detailed consideration of the various forms of literature. A considerable amount of illustrative reading is expected, and the student is required to test two or three classic productions by a practical application of the principles of criticism.

Open to those who have taken Course IV. or Course V., and to a limited number who have taken Course III.

First term, two hours.

Given in 1912-13.

COURSE VII.—American Literature. Outlines of its development. Lectures upon representative authors. The critical study and interpretation of masterpieces. Appreciations and essays by members of the class.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1912-13.

COURSE VIII.—Prose Fiction. Bliss Perry's A Study of Prose Fiction. The novel, the romance, and the short story. Studies in the structure and significance of these popular forms of modern English ficton. Illustrative readings and carefully prepared papers.

Elective under the same conditions as Course VI.

First term, two hours.

Given in 1911-12.

COURSE IX.—Shakspere. Analytic and interpretative studies of five plays of Shakspere. As You Like It, Othello, King Lear, Antony and Cleopatra, The Tempest. A careful

reading of Dowden's Shakspere Primer is required in connection with this course.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1911-12.

COURSE X.—Anglo-Saxon. First term: Old English Grammar. Reading of prose selections from Bright's Anglo-Saxon Reader. Second term: Anglo-Saxon poetry; The Battle of Maldon, The Wanderer, Beowulf.

Elective for those who have completed Course III.

Throughout the year, three hours.

COURSE XI.—Chaucer. Middle English forms and syntax. The Canterbury Tales and minor poems.

Elective for all who have completed Courses II. and III.

Second term, three hours.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as above outlined is carried on by means of recitations, the writing of prose and essays, the hearing of lectures in French, and by collateral readings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I.—Elementary French. Fraser and Squair's Grammar is used as a reference book. Oral and written exercises. Dictation. Reading of such easy prose as Guerber's Contes; Halévy, L'Abbé Constantin; De La Brète, Mon Oncle et Mon Curé.

Throughout the year, four hours.

COURSE II.—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III.—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1911-12.

COURSE IV.—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1912-13.

COURSE V.—French Literature in the Nineteenth Century. A study of the principal authors of this period. Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de Musset, Théophile Gautier, Leconte de Lisle, Sainte-Beuve, Balzac, with a brief survey of contemporary writers.

Throughout the year, three hours.

Given in 1911-12.

COURSE VI.—French Literature before the Seventeenth Century. A study of the history of old French literature,

which will include reading of extracts from the Chanson de Roland, etc. The writers of the latter part of this period will also be studied.

Throughout the year, three hours.

Given in 1912-13.

COURSE VII.—French Prose Composition.

Throughout the year, one hour.

GEOLOGY.

The courses in Geology are eminently general culture courses, explaining as they do so many common phenomena and leading the student to take a greater interest in natural objects. The class work is supplemented by practical work in the field, museum, and laboratory.

COURSE I.—Physiography of the Land and Elementary Meteorology. Laboratory work in the study of topographic and weather maps will be supplemented by several short excursions. Recitations three hours a week and laboratory two hours.

Second term, four hours.

COURSE II.—Geology, Structural, Physiographic and Dynamic. Laboratory work includes the study of the common rock-forming minerals, the identification and classification of rocks, and the study of topographic maps. Field work will require a number of excursions. Open to those who have completed the freshman year. Recitations two hours a week and laboratory two hours.

First term, three hours.

COURSE III.—Historical Geology. Attention will be directed chiefly to North America with a glance at conditions on other continents in each of the geologic periods. In the laboratory, folios showing the distribution, nature, and structure of the rocks of each period will be studied. Students

will be expected to become familiar with other publications of the United States Geological Survey. Fossils typical of each period will be studied. Recitations two hours a week and laboratory two hours.

Open to those who have completed Geology I. or II.

Second term, three hours.

COURSE IV.—Mineralogy. Crystallography, blow-pipe analysis, and determinative mineralogy. Recitations and laboratory work. Open to those who have completed a year in chemistry.

First term, three hours.

GERMAN LANGUAGE AND LITERATURE.

The methods employed in the first two years of this study are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accurate and intelligent pronunciation is insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. Translation from German into English is employed at the outset, but is discarded when it is no longer needed as a test of the understanding of the text. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German language in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been founded among the students of the college. Membership is open to those who have studied German for one or more years.

COURSE I.—Elementary German. Spanhoofd's Lehrbuch der Deutschen Sprache; Huss' German Reader; Storm's Immensee; Baumbach's Im Zwielicht, and Heyse's Die Hochzeit auf Capri, and Wildenbruch's Neid. Oral exercises based on the Gouin Series and oral and written reproduction of portions of the texts read. The aim of this course is to enable the student to read and understand accurately, without translation, German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II.—Intermediate German. First term.—Baumbach's Der Schwiegersohn; Meyer's Gustav Adolfs Page; Schiller's Balladen; William Tell; Elster's Zwischen den Schlachten; Lessing's Minna von Barnhelm; Goethe's Hermann und Dorothea; Eichendorf's Aus dem Leben eines Taugenichts; Freytag's Doktor Luther. One hour a week throughout the year will be devoted to prose composition, reproduction in German, and short themes in German.

Open for students who have credit for Course I., or who present two years of German for admission to college.

Throughout the year, four hours.

COURSE III.—Introduction to Eighteenth Century Classics. Lessing, Goethe and Schiller. Two dramas of each are read in the order named and at least one work of each is critically analyzed. Monthly themes in German and a semestral essay in English. Collateral reading: Robertson's History of German Literature,—chapters on the above poets. Alternates with Course IV.

Throughout the year, two hours.

Given in 1912-13.

COURSE IV.—Introduction to Nineteenth Century Literature. Kleist, Heine, Grillparzer, Hebbel, Keller, Ludwig, Freytag. Rapid reading of one or more works of each. Short themes in German on the reading matter. Collateral reading:

Robertson's History of German Literature,—chapters on the authors read in class. Alternates with Course III.

Throughout the year, two hours.

Given in 1911-12.

COURSE V.—Outline History of German Literature. The aim of this course is to acquaint the student with the most important movements in the history of German literary life, from the earliest times to the twentieth century, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Lectures in German, reports and readings. Given in conjunction with Course IV.

Throughout the year, one hour.

Given in 1911-12.

COURSE VI. German Conversation and Composition. The aim of this course is to train the student in colloquial German in speech and writing. Selections from modern authors are read to the class and reproduced from memory, and themes are written weekly on assigned subjects. The conversation is based on Kron's Daily Life and Vos' Materials for German Conversation. Given in conjunction with Course III.

Throughout the year, one hour.

Given in 1912-13.

COURSE VII.—Goethe's Life and Works. First Term. Reading of works illustrating different periods of Goethe's literary development, such as Götz von Belichingen, Egmont, Torquato Tasso, and selections from Dichtung und Wahrheit. Collateral reading from Bielschowsky's Goethe.

Second Term. Goethe's Faust. Interpretation of the drama and discussion of its philosophic and ethical ideas.

In this course a considerable amount of collateral reading will be required.

Throughout the year, two hours.

Given in 1912-13.

COURSE VIII.—History of the German Language. A general survey of the historical development of the German language, with discussions of such linguistic problems as bear

relation to current usage. Text-books are: Behagel's Die Deutsche Sprache and Curme's Grammar of the German Language as spoken and written today. This course is especially intended for those preparing to teach German.

Throughout the year, one hour.

Given in 1911-12.

COURSE IX.—Middle High German. Study of the dialect in its relation to modern High German, and readings from Hartmann von Aue's Der arme Heinrich, das Niebelungenlied, and Walter von der Vogelweide's lyrics.

Throughout the year, one hour.

Given in 1912-13.

GRAPHICS.

The work in this department is based wholly on the needs of the civil engineer. It is thoroughly practical in its scope and methods. The courses are open only to the students of the Civil Engineering Group.

COURSE I.—Elementary Mechanical Drawing. This course includes the use and care of instruments, lettering and sketching, orthographic, isometric and cabinet projections and an introduction to the methods of descriptive geometry.

First term, four hours.

COURSE II.—Descriptive Geometry. The problems considered are those relating to the point, the line, the plane and the representation of surfaces. Instruction will be by lecture and the solution of problems. Attention will be paid to the concise statement of analyses.

Second term, four hours.

COURSE III.—Descriptive Geometry. The problems considered will be those relating to plane, curved and warped surfaces, the development of surfaces and the intersection of

surfaces and solids. The method of instruction employed in Course II. will be continued.

Second term, three hours.

COURSE IV.—Mechanical Drawing. This course includes plotting, lettering, tracing and the making of blue prints, detail and dimension drawing from sketches, models and from other drawings with a different scale.

First term, three hours.

COURSE V.—Mechanical Drawing. This course includes the designing of simple engineering structures and making detail and dimension drawings of the same.

Second term, three hours.

COURSE VI.—Topographical Drawing. This course includes practice in drawing the different kinds of standard topographic signs used in mapping, and a topographical survey of an assigned territory with a map of the same.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to lead the students to the acquisition of a living knowledge of the Greek language as an introduction to a practical acquaintance with Greek life and thought. It is believed that by careful and accurate work in the first years of the language the student can gain such knowledge as will enable him to read widely and independently. The courses laid down are such as are thought to be best adapted to that end. The work is varied, and an attempt is made to give a view of all departments of the literature. The department possesses a growing collection of casts of antique sculpture, painted vases and other antiquities, about a thousand photographs, and several hundred lantern slides.

Students entering college without Greek are given opportunity to prepare to enter Greek I. with a minimum loss of time.

GREEK A.—Elementary Greek. This is a course intended to prepare students to enter Greek I. by a year of careful work. The first term is devoted to some such book as Benner and Smyth's First Greek Book, the second term to selections from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I. with profit.

Throughout the year, five hours.

COURSE I.—Homer, The Iliad or the Odyssey. Detailed study of two or three books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition.—Passages from classic authors are carefully read in class. A weekly exercise in composition is based on the Greek text read. The aim is to develop a vocabulary and an accurate knowledge of Greek syntax. Impromptu writing of Greek is emphasized.

Throughout the year, four hours.

COURSE II.—Lysias. Selected orations. A detailed study is made of the history of Athens in the Age of Pericles and of the Peloponnesian War as an introduction to this part of the work.

Plato.—The Apology and Crito and selections from the Phaedo. Outline of Greek Philosophy.

Literature, text-book and lectures. Assigned readings on special topics in Greek history and literature. Reading at sight.

This course is made the basis of the study of historical Greek life and civilization.

Throughout the year, three hours.

COURSE III. A—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris and Aristophanes' The Frogs. Individual investigation of special topics. The course is made not only a study of the rise and development of the Greek Drama, but also a study in literary evolution.

Throughout the year, three hours.

GREEK III. B.—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings in Greek, English, and German.

Throughout the year, three hours.

One of these courses is given each year. In 1911-12 A. will be given. Open to all who have completed Course II.

COURSE IV. A.—Classical Archaeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean Civilization. Greek Vase Painting. Greek Architecture.

Throughout the year, two hours.

Given in 1912-13.

COURSE IV. B.—Classical Archaeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1911-12.

Courses IV. A. and IV. B. are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required. The courses are open to those who have completed Course I., and under some limitation may be elected by students having no knowledge of Greek.

COURSE V.—Greek Testament. A minute and critical study of a portion of the New Testament to insure a familiar and accurate knowledge of vocabulary, syntax, and idioms, followed by more rapid reading to develop ease and rapidity in

grasping the thought of the original. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1912-13.

COURSE VI.—Greek Literature. A careful survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Given in 1912-13.

COURSE VII.—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. It may be elected by students having no knowledge of Greek.

Throughout the year, two hours.

Given in 1912-13.

HEBREW.

COURSE I.—Davidson's Hebrew Grammar, completed. Twelve or more chapters in Genesis read.

Throughout the year, four hours.

This course is given in alternate years if called for.

HISTORY.

The aim of the department is to give that knowledge of the facts and the philosophy of history which belongs to a liberal education. The subjects in periods and countries are planned also to train for university work or to equip for preparation to enter law or journalism. The evolution of European civilization from its sources and the growth and influence of Anglo-Saxon institutions are the general theme of the work. History is presented as a real educative

process. The department has the appropriate library authorities for the several courses, and source materials are freely used. Abstracts, maps, essays, and outlines are required in the class room. The method of instruction is a combination of lectures and textbook. Course I. is required for admission to the succeeding courses.

COURSE I.—European History. The period covered extends from the Teutonic migration to the French Revolution. The first term is occupied with mediaeval institutions and the transition to modern Europe. Robinson's European Readings and Bemont and Monod's Mediaeval Europe are the texts for class guidance. Required readings in standard authorities are assigned. The second term is devoted to the growth of nationalities and the religious and political struggles for balance of power. Lodge's Modern Europe furnishes the outline of the work.

Throughout the year, three hours.

COURSE II.—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Hausser and Fisher. This course alternates with Course III.

Throughout the year, three hours.

Given in 1911-12.

COURSE III.—French Revolution and Nineteenth Century. The first term follows the causes and the course of the French Revolution and concludes with the Napoleonic Era. A lecture course with references to many authorities, Stephen's Revolutionary Europe and Rose's Napoleon being required.

The second term examines Europe in the Nineteenth Century after the Congress of Vienna, studying the formation

of the German and the Italian unity and the continental triumph of liberalism. Seignobos' Europe and Fyffe's Modern Europe are used as outlines of the work.

Throughout the year, three hours.

Given in 1912-13.

COURSE IV.—History of England. The work extends from the Teutonic origins to the Nineteenth Century. Lectures, collateral readings, and text-books. Gardiner's Student's History and Green's Short History of the English People furnish the outline; and references are required in the constitutional histories of Stubbs, Hallam, and Taswell-Langmead and in the works of Froude, Gardiner, and Lecky. This course alternates with Course V.

Throughout the year, two hours.

Given in 1912-13.

COURSE V.—The Political and Constitutional History of the United States, from 1781 to 1861. The sources are extensively used as found in the government publications, the writings and addresses of statesmen, and the contemporary interpretation of national affairs. Lectures, and reports by students on assigned readings in Schouler, Henry Adams, McMaster, Gordy, Rhodes and the American Nation Series. Monographs required of the class each term.

Throughout the year, two hours.

Given in 1911-12.

ITALIAN LANGUAGE AND LITERATURE.

COURSE I.—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Salvatore Farina, Il Signor Io; Goldoni, Il vero Amico. Open to juniors and seniors.

Throughout the year, three hours.

Given in 1911-12.

COURSE II.—Literature in the Thirteenth and Fourteenth

Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte. Open to juniors and seniors.

Throughout the year, two hours.

Given in 1912-13.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman life and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and facsimiles of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the elective courses, by individual work.

COURSE I.—Cicero, De Senectute or De Amicitia.

Livy, Books XXI-XXII, or selections from Books I-XXV.

Terence, one play, usually the Phormio.

Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation. In connection with Livy is made a careful study of the geography of Spain and Italy and of the history of Rome during the Second Punic War. Attention is also directed to the literary characteristics of Livy and of his age.

Throughout the year, four hours.

COURSE II.—Horace, selected Odes and Epodes.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's literary and political life and to as much of the history of the period as sheds light on the subject matter.

Readings from Latin Verse. Selections from representative Latin poets of all periods. One comedy is usually included.

Throughout the year, three hours.

COURSE III. A.—Tacitus, Annals, selections from Books I.-VI.

Suetonius, Lives. The Latin texts are used as a basis for a careful study of the character of Tiberius and the upbuilding of the principate. Collateral study on the history of the period.

Throughout the year, three hours.

B.—Martial, Selected Epigrams.

Quintilian, Institutions X. Lectures and discussions on Roman literary forms.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed Course II.

Given in 1911-12.

COURSE IV.—Roman Private Life. Lectures and reports on Roman private life with readings mainly from the Letters of Pliny.

This course alternates with Course III. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1912-13.

COURSE V.—Roman Topography. Lectures and reports on topography, architecture, monuments, and history of Rome.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1911-12.

COURSE VI.—Advanced Latin Composition. Practice in writing prose with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

Throughout the year, two hours.

Given in 1912-13.

NOTE.—For students entering college without complete preparation in Latin, instruction will be provided in such secondary Latin as may be required to satisfy entrance conditions.

MATHEMATICS.

The elementary courses in mathematics are: college algebra, plane and spherical trigonometry, analytic geometry including conic sections and differential and integral calculus. These courses may be taken in the freshman and sophomore years. They mark the minimum attainments that a teacher of mathematics in a high school or an academy should possess.

COURSE I.—Algebra. This is a continuation of the Algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered: mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants.

Trigonometry. The elements of trigonometry on the plane and on the sphere.

Throughout the year, three hours.

COURSE I. C.—Solid Geometry.

First term, three hours.

COURSE II.—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of Analytic Geometry, of two and three dimensions, designed to equip the student for work in Calculus. This course includes a complete elementary course in Differential and Integral Calculus and while it satisfies the requirements in mathematics for B. S. students, it will be adapted to those who are fitting themselves to teach mathematics in secondary schools.

Throughout the year, four hours.

COURSE III.—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics.

First term, three hours.

COURSE IV.—Differential Equations. An elementary treatment of Differential Equations, with applications to Physics and Mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V.—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometrie der Lage; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1911-12.

COURSE VI.—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable, following the methods of Weierstrass and Riemann.

Throughout the year, two hours.

Given in 1912-13.

PHILOSOPHY.

The aim of this department is to acquaint the stu-

dent with the chief philosophic theories of the past and present, to cultivate in him the habit of critical and independent thought, and to set forth a consistent and satisfactory method of dealing with the fundamental problems of speculation.

COURSE I.—Psychology. A general introduction to the subject. A text-book is used, which is supplemented by informal lectures, assigned readings, and papers on special topics.

First term, three hours.

COURSE II.—Ethics. A brief survey of the history of ethical thought is followed by an examination of the chief ethical systems of modern times, with a view of arriving at the really valid principles which underlie human conduct. These principles are then applied to the various institutions and natural relations of human life. A text-book is used, supplemented by informal lectures. Open to those who have taken Course I.

Second term, three hours.

COURSE III.—Logic. This course aims to give the student a thorough knowledge of the fundamental laws and forms of thought. The principles governing immediate and mediate reasoning will be explained and the leading types of Deduction and Induction will be studied. A text-book will be used, supplemented by lectures, and the student will be drilled in the different figures of the syllogism and in the detection of fallacies. Practical exercises will constitute a large part of the work demanded.

First term, three hours.

Given in 1911-12.

COURSE IV.—Metaphysics. This applies the conclusions reached in the preceding course to the questions relating to reality. Our chief metaphysical ideas are examined and an attempt is made to fix their meaning. These results are then applied to the construction of a consistent and valid theory

of the nature of the material world and of the human soul. Open to all who have taken Courses I. and III.

Second term, three hours.

Given in 1911-12.

COURSE V.—History of Philosophy. A study of the chief philosophers and philosophic systems of ancient and modern times. A text-book will be used. Open to all who are taking or have taken Course I.

First term, two hours.

Given in 1912-13.

COURSE VI.—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Courses I. and V.

Second term, two hours.

Given in 1912-13.

COURSE VII.—Philosophy of Religion. This will be chiefly a lecture and reference course in which much reading and independent work will be expected on the part of the student. It will be introduced by a discussion of the religious data of thought and knowledge, the relation between Metaphysics and Theology, the true nature of Religion and the trustworthiness of the Religious Consciousness. It will embrace the comparative study of the various Nature, Culture and Prophetic Religions, thus critically studying Religion in its historic phenomena. It will include a consideration of the Absolute Religion.

Open to those who have taken Courses I. and II., or III.

Second term, three hours.

PHYSICS.

This department comprises courses in theoretical and practical physics.

The aim of the instruction is to give the student a

thorough knowledge of the principles and laws that govern physical phenomena, and to acquaint him with the actual operations of these principles and laws. The work is presented to the student by lectures, with experimental demonstrations, combined with recitations, and the solution of problems. In the practical work, the student performs such experiments in the laboratory as will give him a practical knowledge of the principles and laws of physics.

The first courses are elementary and intended primarily for general culture. The remaining courses are designed for those more especially interested in science, those who expect to teach the subject, or those who are planning to pursue engineering.

COURSE I.—College Physics. Mechanics, Sound, Heat, Light, Magnetism, and Electricity. A general course in which the laws and phenomena of physics are carefully developed and illustrated. Lectures, experimental demonstrations, and recitations. All students in this course will meet three times a week. All may, and engineering students must, meet four times a week, the additional hour being devoted to problems and additional text work. Students in this course must schedule at least one hour of Course II. Plane Trigonometry prerequisite.

Throughout the year, three or four hours.

COURSE II.—Experimental Physics. Laboratory work to supplement Course I. The student is required to verify laws of Physics, to make measurements of physical quantities, and determine physical constants. Open to students who are pursuing or who have completed Course I.

Throughout the year, one to three hours.

COURSE III.—Elementary Analytic Mechanics, Statics, Kinematics, and Kinetics. Special attention is given to the application of mechanics to engineering problems. Open to

those who have completed Mathematics II. and Physics I.

Throughout the year, two hours.

COURSE IV.—Physical Measurements. A laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I. and two hours throughout the year of Course II.

First or Second term, three hours or
Throughout the year, two to four hours.

COURSE V.—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapors and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Students electing this course must schedule at least two hours of Course IV. Open to students who have completed Course I. and two hours throughout the year of Course II. and Mathematics II.

Throughout the year, two hours.

COURSE VI.—History of Physics. Open to students pursuing Courses I., III., or V.

Throughout the year, one hour.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE.

This department is open to those who have completed one year's work in History. Political theories and principles, ancient, mediaeval, and modern, are examined, as illustrated in the rise and fall of nations, and in the evolution of constitutions. In addition to the cultural worth of these investigations, it is the purpose to train for intelligent, responsible ctizenship in the nation and community.

COURSE I.—Comparative Politics. This course is historical as well as comparative in method. It begins with a study of the state, its origin, development, forms, and aims, and an examination into the government of ancient Greece and Rome and of mediaeval times. Then follow a study of the development and a comparison of the present constitutions of England, France, and Germany. The work is based on Wilson's The State, Burgess' Political Science, and Goodnow's Comparative Constitutional Law.

First term, two hours.

COURSE II.—American Administration. This is a comprehensive study of national, local, and municipal government in the United States. Constitutional Law is examined, the sources of the national constitution being traced and the development of its chief powers analyzed. The practical working of the administration in central and local control is then studied and particular attention given to the conditions and the rule of cities. The work is based on Cooley's Constitutional Law, Bryce's American Commonwealth, and Wilcox's American City.

Second term, two hours.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I.—Written analysis and interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term each student is required to present an assigned passage at every recitation. During the second term fewer but longer assignments are made, and more extemporaneous work is required. There is

also in this term a drill in the principles of parliamentary law.

Throughout the year, one hour.

COURSE II.—Argumentation and Debate. First Term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second Term. The theory of the subject is concluded; the emphasis, however, is laid on practice.

Elective for those who have completed English I.

Throughout the year, one hour.

COURSE III.—The Oration. First Term. A study of the non-forensic forms of public address, leading up to an examination of the general structure and the style of the oration. Illustrative selections. Outline-building. Written presentation of persuasive themes. One original oration. Second Term.—Study of great orators. Each member of the class is required to present a paper involving a comprehensive study and critical analysis of some great English or American orator.

Elective for those who have completed English II.

Throughout the year, one hour.

COURSE IV.—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. A systematic course in gesture. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation.

Elective for those who have completed Course I.

First term, two hours.

COURSE V.—A systematic study of voice culture. Lectures on how to use the voice, defects, and how to overcome them. Practical work by the student in exercises for the development of the different forms and degrees of utterance, quality, pitch, force, in their relation to voice production. This course will include dramatic readings from one of Shakspere's trag-

edies. Formal recitals will be held and public work required from each student.

Elective for those who have completed Course IV.

Second term, two hours.

Special work for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

COURSE I.—Elementary Spanish. Giese's First Spanish Book. Worman, First Spanish Book. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdós, Dona Perfecta. Open to juniors and seniors.

Throughout the year, three hours.

Given in 1912-1913.

COURSE II.—A study of modern Spanish novels and dramas. Open to juniors and seniors.

Throughout the year, two hours.

Given in 1911-12.

PHYSICAL TRAINING.

For Young Men.—The object of this department is to give the student growth and increase of strength; to provide health and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours. Physical measurements and strength tests of all students are taken upon entrance and at the close of the college course and also at such other times as seem necessary. These form the basis of comparison of the students' conditions and needs, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular

development, or such deformities as are amenable to physical exercise.

Students will receive personal advice in reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise, consisting of Swedish work, military gymnastics, Indian club, wand, and dumb bell drills, principles of heavy gymnastics, is required of the men of the sophomore and freshman classes, three hours a week, from the middle of October to the middle of May. Elective work is offered the junior and senior classes.

For Young Women.—The aim of the work is to acquire a symmetrical development of the body as a basis for health and grace. The training is based on Delsarte Philosophy of Expression, and the Swedish and German systems of free movements and light gymnastics. All young women are required to take the prescribed work unless excused on recommendation of the instructor.

The general work includes Indian club and dumb bell exercises, flexing exercises to overcome stiffness, exercises to develop control of the muscles, and all devices in training that secure freedom of bodily action.

The Gymnasium for Women is equipped with the most modern apparatus. Opportunity is offered to do individual work under the direction of the instructor in addition to the regular class exercises. In the basement of Hulings Hall there is a bowling alley for the exclusive use of young women.

REQUIRED WORK.

For graduation in any group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. The prescribed work in physical training must also be completed. In the senior year a thesis and an oration are required. But in the groups leading to the B.S. degree two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

List of Electives.

The following list of elective studies includes all subjects that are elective in any of the groups. Some of the subjects are required in one or more of the groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank and group electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject. No credit for graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 34 to 69.

	First Term	Second Term
Astronomy I.	3	..
Astronomy II.	..	2
Astronomy III.	..	3

	First Term	Second Term
Astronomy IV.	..	2
Astronomy V.	4	4
Biology I.	4	4
Biology II.	1	1
Biology III.	..	4
Biology IV.	3	3
Biology V.	4	..
Biology VI.	..	4
Biology VII.	4	..
Biology VIII.	3	3
Biology IX.	3	..
Biology X.	..	3
Chemistry I.	4	4
Chemistry II.	3	3
Chemistry III.	4	4
Chemistry IV.	4	4
Chemistry V.	3	3
Chemistry VI.	3	3
Chemistry VII.	3	3
Chemistry VIII.	4	4
Chemistry IX.	3	3
Chemistry X.	2	2
Economics I., II.	3	3
Economics III., IV.	2	2
English III.	..	3
English IV.	3	3
English V.	3	3
English VI., VII.	2	2
English VIII.	2	..
English IX.	..	2
English X.	3	3
English XI.	..	3
English Bible II.	2	2
English Bible III.	3	3
French I.	4	4
French II.	4	4
French III.	3	3
French IV.	3	3
French V.	3	3

	First Term	Second Term
French VI.	3	3
French VII.	1	1
Geology I.	..	4
Geology II., III.	3	3
Geology IV.	3	..
German II.	4	4
German III.	3	3
German IV.	2	2
German V.	1	1
German VI.	2	2
German VII.	1	1
Greek I.	4	4
Greek II.	3	3
Greek III.	3	3
Greek IV.	2	2
Greek V.	2	2
Greek VI.	4	4
Greek VII.	2	2
Hebrew	4	4
History I.	3	3
History II.	3	3
History III.	3	3
History IV.	2	2
History V.	2	2
Italian I.	3	3
Italian II.	2	2
Latin I.	4	4
Latin II.	3	3
Latin III.	3	3
Latin IV.	2	2
Latin V.	2	2
Latin VI.	2	2
Mathematics I.	3	3
Mathematics II.	4	4
Mathematics III.	3	..
Mathematics IV.	..	3
Mathematics V.	3	3
Mathematics VI.	2	2
Philosophy I., II.	3	3

	First Term	Second Term
Philosophy III., IV.	3	3
Philosophy V., VI.	2	2
Philosophy VII.	..	3
Physics I.	4	4
Physics II.	3	3
Physics III.	2	2
Physics IV.	3	3
Physics V.	2	2
Physics VI.	1	1
Political Science I., II.	2	2
Public Speaking II.	1	1
Public Speaking III.	1	1
Public Speaking IV., V.	2	2
Spanish I.	3	3
Spanish II.	2	2

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $75 a year, one-half payable at the opening of each term. This includes incidental, library, and gymnasium fees.

Students in the Civil Engineering Group and those who elect any of the technical subjects of that course pay an additional fee of $7.50 a term.

In the laboratories the following fees are charged each term:

Astronomy II., V. (Per term hour)	$ 2.00
Biology I.	2.00
Biology III.	3.00
Biology IV.	4.00
Biology V. and VI.	5.00
Biology VII.	3.00
Biology VIII.	4.00
Biology IX. and X.	7.50
Chemistry I.	4.00
Chemistry II., III., IV., VI., VII., VIII., XI.	7.50
Chemistry IX.	5.00
Geology I., II., III.	2.00
Geology IV.	4.00
Physics II. (Per term hour)	2.00
Physics IV. (Per term hour)	2.50

In addition breakage of material furnished is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for.

LIVING EXPENSES FOR YOUNG MEN.

The young men of the College board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $100.00 a year. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One-half the room rent in Cochran Hall is due and payable at the opening of the first term and one-half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half year's payment. The rate for rooms varies from forty to eighty dollars a year for each student. All rooms except those occupied by seniors are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $30.00 at the opening of the year; $25.00 on the second Monday in November; $25.00 at the opening of the second term; $20.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term fee	$ 75.00	$ 75.00
Room rent, fuel, light	30.00	50.00
Table board	100.00	125.00
Books	10.00	20.00
Total	**$215.00**	**$270.00**

To be added to these figures are the laboratory fees, if the student pursues studies in which such charges are made. Students in the Civil Engineering Group pay an additional fee of $15 a year. The cost of books

will vary greatly from term to term, but a fair average will fall within the limits given.

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the College does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more than $300 a year. This, of course, does not include traveling expenses, clothing, or luxuries. An economical student can live on $250 a year; indeed not a few students spend less than this and yet live comfortably.

A circular detailing the expenses of living in Cochran Hall will be sent on request.

YOUNG WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors, and young women have access to all departments of the College, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The Hall is under the charge of the Dean of Women, whose influence, with that of her competent assistants, is constantly felt in the social,

moral, and religious development of the young women under her care.

For the proper maintenance of the Hall as a college home for young women certain specific rules are essential, but it is the policy of the College to make only such regulations as will best protect the interest of those who reside there. As large a measure of self-government as possible is accorded and the young women of the upper classes assume a certain amount of responsibility for the management of the Hall. All proper freedom is allowed, but applicants for admission are reminded that the purpose of residence in Hulings Hall is not primarily social but educational, and the authorities in charge reserve the right to determine what best promotes the educational welfare of the residents in the Hall. A copy of the regulations for the government of the Hall will be sent on request.

The rooms are furnished with beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels, and napkins.

The rates for a term, including heat and light, are as follows:

Main corridor, second and third floors.....$50.00
Rear corridor, second and third floors..... 40.00

When two persons occupy a room the rate for each is one-half the above amount. Room rent is payable at the opening of each term. Rooms may be reserved in advance by the payment of a deposit of ten dollars. Seniors are allowed first choice of rooms. Table board is $60 a term. The House Fee is $10. The total expense for board, room, heat, light, and House Fee for the year, where two occupy a room, is $190 if the room

is in the front corridor, and $180 if the room is in the rear corridor.

All Hall fees are to be paid as follows: One-half of the room rent for the year and one-half of the House Fee is due at the opening of each term. Deposit fee is deducted from first payment. Board is payable in four installments as follows: $35 at the opening of the year; $30 the second Monday in November; $30 at the opening of the second term; and $25 the third Monday in April.

AID TO STUDENTS.

Self-Help.—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the College or the boarding clubs. Some find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the College to help students that help themselves.

The Lindley Endowment.—By the will of the late Miss Lucy Lindley, of Meadville, the College received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund.—In 1904 Mrs. Hettie F. Ballantyne, of Pittsburgh, gave to the College thirty thousand dollars in memory of her husband,

James Alexander Ballantyne; the fund is to be known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expenses, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from the territory of that conference who are studying for the ministry. This fund is administered by the officers of the College Faculty on recommendation of a committee of the Pittsburgh Conference.

High School Scholarships.—The Board of Trustees has established forty prize scholarships of fifty dollars each, to be awarded each year to honor students in forty of the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course. If the class numbers more than ten, and less than twenty-five, it may go to the first or second in rank, and if there are over twenty-five in the class the scholarship may go to any one of the highest three. The amount of the scholarship is to be applied on the fees of the freshman year.

Educational Society Loans.—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. These loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference.

The loans are made by the Society on the recommendation of the Faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the College funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The College was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student, or his parents, is also advised. Prayer meetings are held Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are largely attended.

The religious influence of the College is not in any sense sectarian, but Christian. On the rolls this year are representatives from fifteen Christian denominations.

THE ADVISER SYSTEM.

Each student on registering is assigned to some member of the faculty, who serves throughout the year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members on lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the College. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Scientific Club meets fortnightly to discuss abstracts of current scientific papers or to listen to the presentation of original research of some of the members. The Club includes members of the faculty and students in the College who are interested in scientific work.

The German Club is an organization of students under the leadership of the professor of German that meets fortnightly for the purpose of arousing and sus-

taining interest in the German language as a vehicle of oral expression and of studying German life, institutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Society of Applied Science meets fortnightly for the discussion of current scientific literature and for the discussion of original papers submitted by the members on the application of science to the practical affairs of life. All students in the Scientific and Civil Engineering courses are eligible to membership.

The Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate, under the guidance of representatives of the departments of English and Public Speaking.

PRIZES.

In addition to essay and oration prizes offered by the literary societies, three prizes are open to competition by students of the college classes.

The Wakefield Oration Prize.—Mr. James A. Wakefield, of Pittsburgh, furnishes a prize of fifty dollars, in the name of his grandfather, Rev. Samuel Wakefield, D.D., awarded in February of each year, to the young man delivering the best oration. The winner of this prize represents the College in the Tri-State Oratorical Contest held in May.

Heckel Prizes in Science.—Two prizes, a first prize

of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded the following Commencement Day.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the college are in the hands of the Athletic Association, to which all members of the College are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be bona fide students taking not less than twelve hours work, must have been registered at the opening of the year in which they compete, may not have more than one condition in any preceding work or be delinquent in the current term's work, and may not receive remuneration, directly or indirectly, for their services. The College is a member of the Inter Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts in Classical Languages is conferred upon those who complete in a satisfactory manner Group I. or II. The degree of Bachelor of Arts in Modern Languages is conferred upon those who complete in a satisfactory manner Group III. or IV. The degree of Bachelor of Science is conferred upon those who complete in a satisfactory manner Group V., VI., VII., VIII., or IX.

Bachelors of Arts of this College, or of another of equal rank, may pursue, in residence, work in not more than two distinct lines of study. On the completion of a full year's work, including a satisfactory thesis, the degree of Master of Arts is conferred. Bachelors of Arts of this College may, by vote of the Faculty, be permitted to pursue this work in non-residence, but in that case at least two years must be devoted to it. A student who has completed at the end of the first term of the senior year all requirements for the degree of Bachelor of Arts, may pursue work in residence which shall count toward the degree of Master of Arts. Such a student may complete in non-residence the remainder of his work for the Master's degree and receive the degree one year after receiving the Bachelor's degree.

The degree of Master of Science is conferred upon Bachelors of Science on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the College pays a diploma fee of five dollars.

REGISTER OF STUDENTS.

GRADUATE STUDENTS.

Candidates for the Degree of Master of Arts.

Campbell, Nellie Margaret ..... Meadville
A. B., Allegheny College, 1910—English.

Lewis, Charles Fletcher ..... Meadville
A. B., Allegheny College, 1909—English, History.

Rowley, Edith ..... Meadville
A. B., Allegheny College, 1905—Greek.

SENIORS.

Allen, Mercedith Bankerd ..... Pittsburgh
Bacon, Florence Rosannah ..... Meadville
Ball, Wendell Phillipp ..... North Girard
Ballinger, T. Dudley ..... Meadville
Barkley, John William ..... Braceville, O.
Bassett, Mollie Arnett ..... Bridgeport, Conn.
Beaver, Eva Josephine ..... Shenango
Bond, Helen Margaret ..... Meadville
Bortz, James Andrew ..... Greensburg
Bricker, Robert Weddell ..... Pittsburgh
Cole, Warren Bushnell ..... Andover, O.
Copeland, Clarence Allen ..... Meadville
Craig, William Benjamin ..... Warren, O.
David, Bruce William ..... Meadville
Duffy, Una Katherine ..... Corry
Emery, Bessie Irene ..... Mercer
Fife, Walter Glenn ..... Millvale
Firestone, Harry Dewees ..... McKeesport
Fisher, Clarence Conrad ..... Ellwood City
Ford, Irvin Davis ..... Conemaugh
Frampton, James Ward ..... Meadville
George, Roland Jones ..... Saegertown
Goodrich, Jennie Mary ..... Meadville
Grant, Charles Claire ..... Meadville
Harris, Leonard Clement ..... Reynoldsville

Hilborn, Claire Egbert ..... Kane
Hillman, Gertrude ..... Youngstown, O.
Hillman, Paul Mansell ..... Youngstown, O.
Hubbard, Earle Nicholas ..... Grand Gorge, N. Y.
Kelly, Ruth Root ..... Meadville
Kennedy, Edwin Paul ..... Pittsburgh
Kulp, Walter LeRoy ..... West Middlesex
Lauffer, Verna Frances ..... Harrison City
Loane, Lucy Evelyn ..... Oil City
Mackenzie, Julia Jean ..... Oil City
MacKnight, Sarah Elizabeth ..... St. Paul, Minn.
Martin, Eleanor May ..... Meadville
Metcalf, Bessie May ..... Jamestown, N. Y.
Mickle, Friend Lee ..... Garland
Miller, Edna May ..... Philipsburg
Moore, John Harrison ..... Sandy Lake
Moore, Nelson Rist ..... Vanderbilt
Morse, Melvin Everett ..... North Girard
Nelson, Andrew Julius ..... Jamestown, N. Y.
Preston, Ida Florence ..... Meadville
Robinson, Jesse Squibb ..... Boston
Saeger, Lovina Belle ..... Beaver Falls
Sayre, James Frank ..... New Richmond
Simpson, Viola Hume ..... Indiana
Small, Walter Madison ..... Cooperstown
Smith, Lillian La Verna ..... Tarentum
Smith, Mary ..... Oakmont
Snearline, Irene Elizabeth ..... Meadville
Sprouse, Anna Camden ..... Monnessen
Stidger, Ivan Reed ..... Moundsville, W. Va.
Stockdale, Robert Clark ..... Dubois
Stoner, Oma Belle ..... Scottdale
Swanson, Arthur André ..... Lakewood, N. Y.
Van Hoesen, Sarah Emeline ..... Meadville
Vosburgh, Susanna ..... Wellsville, N. Y.
Weeter, Harry Montgomery ..... Fredell
White, Charles Mortland ..... McKeesport
White, John Merrill ..... California
Willson, Myra Adele ..... Meadville

Seniors, 64.

JUNIORS.

Amon, Frank Owen ..... Greenville
Anderson, Wilhelmina Maria ..... Titusville
Angus, Lyman Beecher ..... Conemaugh
Baum, Chester Allan ..... Franklin
Bodenhorn, Oscar Henry ..... New Bethlehem
Bollman, Nellie May ..... Irwin
Braymer, Berdeen ..... Meadville
Brigham, Samuel Townsend Jack ..... Oil City
Callahan, Frank Howard ..... Johnstown
Dalzell, William Frederick ..... Moundsville, W. Va.
Davis, Lynn Merl ..... North Girard
Davison, Glenn Huston ..... Diamond
Deane, Barbara Leavenworth ..... Bridgeport, Conn.
Doane, Arthur Walter ..... Meadville
Donlin, Florence Beatrice ..... Meadville
Dorworth, Ruth Elizabeth ..... Oil City
Dunsmore, Archie Nevada ..... Ford City
Geiss, Lida Alma ..... Wilmerding
Gibbons, Augusta ..... Sharon
Grant, Weldon Roy ..... Meadville
Hamman, Howard Harrison ..... Greensburg
Herpel, Fred Karl ..... Reynoldsville
Hughes, Thomas ..... Wheeling, W. Va.
Hunt, Harrison Russell ..... Meadville
Jordan, Louise Torrence ..... Meadville
Lauffer, Caroline ..... Harrison City
Lavely, Horace Thomas ..... Meadville
Limber, Alfred Edward ..... Meadville
Ling, Elizabeth Pauline ..... Meadville
Litten, Ross Burns ..... Pittsburgh
Lord, Victoria Mae ..... Oakmont
Lore, Charles Lawrence ..... Vandergrift
McClure, Alfred Rose ..... Sandy Lake
McClure, Cecilia Elizabeth ..... Titusville
McElwain, Florence Grace ..... Sheakleyville
Maxwell, Willard Finley ..... Oil City
Mead, Gilbert Wilcox ..... Verona
Megirt, Margaret Ellen ..... Union City

More, Carl Newton ..... Batavia, Ill.
Nichols, Sumner Ely ..... Girard
Nodine, Arthur Carlton ..... Titusville
Osthaus, Ned ..... Scranton
Patterson, Mary Jane ..... Homestead
Peck, Annie Helene ..... Bellevue
Piersol, Robert James ..... Bentleyville
Prenatt, Grace Mary ..... Meadville
Reed, Mildred May ..... Crafton
Remler, Adelaide ..... Meadville
Ruettgers, Arthur ..... Brooklyn, N. Y.
Salmon, Ethel ..... Westport, Conn.
Sheffer, William Elias ..... Lamartine
Shelmadine, Marguerite Black ..... Pleasantville
Shires, Florence Junebell ..... Mansfield, O.
Shires, Cecelia Forney ..... Mansfield, O.
Smith, Charles Stanley ..... Meadville
Sowash, Mary Stuart ..... Irwin
Stewart, John A. Mueller ..... Beaver
Thomas, Robert Weller ..... Conneaut, O.
Thompson, Donald Chester ..... Meadville
Tordella, Joseph ..... Meadville
Vogel, Charles Ellsworth ..... Jeanette
West, Margaret Ellen ..... Jamestown, N. Y.
Wheeling, Katherine Eleanor ..... Oil City

Juniors, 63.

SOPHOMORES.

Abbott, Wesley Ernest ..... Sugar Grove
Allgier, George John ..... Glen Hazel
Anchors, Muza ..... New Kensington
Baldwin, Ruth Frances ..... Chautauqua, N. Y.
Ball, Ben Harrison ..... North Girard
Bayard, Ethel ..... McKeesport
Beatty, Maude Irene ..... Oil City
Beyer, Margaret Virginia ..... Punxsutawney
Bishop, Annie Gray ..... Versailles
Blasdell, David Joslin ..... Dayton, N. Y.
Blucher, Joseph Cooper ..... New Castle
Borland, Carl Allan ..... Erie
Brockway, Clair Frederic ..... S. New Lyme, O.
Calvin, Claudius Virgil ..... Meadville
Coleman, Paul Martelle ..... Meadville
Conaway, Ross Kelly ..... Warren
Conaway, Willard Green ..... Warren
Cousins, Esther ..... Hadley
DeLand, Edith May ..... Sheridan, N. Y.
Denison, Howard Harrison ..... Linesville
De Young, Joseph Staples ..... Kane
Doane, Norman David ..... Meadville
Dotterrer, William ..... Muzette
Dutton, Helen Maria ..... Meadville
Eckels, Claude Alan ..... Kane
Else, James Gibson ..... Youngstown, O.
Fisher, Marie Abrilla ..... Sharon
Fitzgerald, Thomas Raymond ..... Mt. Pleasant
Foster, Vera Lillian ..... Butler
Galbraith, Wilbur Floyd ..... Coal Center
Goodwin, Andrew Jackson ..... Wheeling, W. Va.
Gordon, Harold Jackson ..... Cambridge Springs
Grauel, Beulah Marie ..... Aspinwall
Griswold, Florence Minerva ..... Warren
Haine, William ..... North Bloomfield, O.
Hall, Ernest Jackson ..... Russell
Harper, Helen ..... Youngstown, O.
Hawk, Louis Leberman ..... Meadville

Henry, Willard Lawrence .....Linden, N. J.
Hinckley, Cordon Earle .....Johnsonburg
Hutchinson, Clara Romaine.....Warren
Kelsay, Agnes Ruth .....Meadville
Kightlinger, Karl Ridle .....Meadville
Kline, Paul Vorse .....Oil City
Kramer, Edmund Rudolph .....Meadville
Lane, James Garfield .....Meadville
Leffel, Doyle Hugo .....Piqua, O.
Leitzel, Henry Samuel Howard.....Braddock
Lockwood, Jane Bertha .....Clarendon
Lord, Elizabeth Daggett .....Vineyard Haven, Mass.
Lord, Howard F.....Conneautville
Lowe, Mary Elizabeth .....Meadville
McClellan, John Price .....Irwin
McDonald, Fawn .....Union City
McKay, Evans .....Meadville
McKay, Paul .....Meadville
McKinney, Eva Emily .....Corry
McLean, Owen Caldwell .....Sharon
McNulty, Charles Grover.....Conneautville
Mates, James Wilson .....Butler
Maynard, Foresta Hazel .....Elgin
Meek, Dan Coe .....Coshocton, O.
Meeker, Nellie Asenath .....Westport, Conn.
Miller, Charles Spurgeon .....Elizabeth
Mosier, Rodney Dean .....Hayfield
Nevins, Clyde Louis .....Braddock
Norton, Samuel Harry .....Meadville
Olson, Ellen Hazel .....Titusville
Palmer, Benjamin Harvey .....Meadville
Peterson, LeRoy .....Kane
Poux, Marie Cecelia .....Meadville
Rea, Alfred Alonzo .....Linesville
Reed, James Wilbur .....North Girard
Reichel, Mary Nina .....Saegertown
Reichel, Susie Ruth .....Saegertown
Richey, De Wayne Greenwood.....McKeesport
Rosenberger, Andrew .....Meadville
Sansom, Dorothy .....Clarion

Shields, Charles Frederick ..... New Kensington
Smith, Lottie Vildena ..... Guys Mills
Sparling, Clyde Vincent ..... Irwin
Storer, Happer Beacom ..... New Sheffield
Strickland, Laura Frances..... Cattaraugus, N. Y.
Taylor, John Theodore ..... Irwin
Thomas, Ruth Miriam ..... Meadville
Townsend, Stewart Strickler ..... Perryopolis
Trosh, Franklin Brinton ..... Oil City
Van Horn, John Dick..... Scottdale
Wells, William Hugh ..... Wellsville, O.
White, Elma ..... Meadville
Whitney, Ernest ..... West Springfield
Wieler, Harry Julius ..... Wheeling, W. Va.
Wilkinson, Abram ..... Meadville
Wilkinson, William Walter ..... Meadville
Williams, Elsie Beth ..... Meadville
Williams, Rose Green ..... Girard
Winn, Charles Burton ..... Basking Ridge, N. J.

Sophomores, 97.

FRESHMEN.

Askey, Harrison Lemley.....Sharon
Bacon, Ethel Katherine.....Meadville
Barackman Paul Freeman.....Meadville
Bardall, Mary Elizabeth.....Moundsville, W. Va.
Barnes, Faye Elizabeth.....Zanesville, O.
Beck, Perry Alvin.....East Sandy
Beisel, Ben Raymond.....Pittsburgh
Black, Perry Newton.....Meadville
Boyer, Kile.....Evans City
Breckenridge, Banks Bon.....Meadville
Brigham, Richard Douglas.....Oil City
Browning, Mabel Ruth.....Scottdale
Burns, Jesse Erwin.....North Washington
Burwell, Charles Sidney.....Meadville
Cares, Charles William.....Meadville
Carlson, Leonard Oliver.....Chicago, Ill.
Carothers, James Woods.....West Newton
Carr, Clarence James.....Meadville
Carroll, Florence Mary.....Kane
Carroll, Marion Agnes.....Kane
Case, Clarence Cicero.....Townville
Chadmon, Frank Whittekin.....Lamartine
Coon, William Edwin.....Albion
Croasmun, Max Neale.....Redclyffe
Cullum, Rudolph Luttgen.....Meadville
Davis, Clara Rosannah.....Union City
Delp, August.....Meadville
Diefenderfer, Kathryn Eliza.....Greenville
Dodd, Ruth.....Zanesville, O.
Dotterrer, Charles Milton.....Muzette
Edmonds, Audley Rexford.....Bruin
Elbel, Louis Edward.....Punxsutawney
Ericson, Ruth Marie.....Dubois
Evans, Raymond David.....Pittsburgh
Fegely, Walter Hanchett.....North Girard
Firestone, Samuel, Jr., ...McKeesport
Fisher, Stella Adda.....Ellwood City
Freer, Nellie Elizabeth.....Galion, O.

Frost, George Bertram.....Richmond, Quebec, Canada
Girsham, Ellen May.....Yenangyoung, Burma
Graham, James Hebron, Jr., ...Butler
Hall, Edith.....Harmonsburg
Hamilton, Linnie Gertrude.....Hopkinton, Iowa
Hammond, Gertrude Lenore.....Reynoldsville
Harper, Edgar Robert.....Meadville
Hasely, Charles Clark.....New Castle
Hastings, Josephine.....Allegheny
Hayes, Wesley Glenn.....Edinboro
Heath, Clyde Hartson.....Corry
Hendricks, Charles Seaton.....Bolivar
Hotson, Mary Helen.....Meadville
Hunt, Sara Althea.....Meadville
Hutchinson, Joe Berklett.....Parkersburg, W. Va.
Jeffery, Morey Potts.....Meadville
Johnson, Frank Collins.....Lisbon, O.
Johnston, Paul William.....Greenville
Kahle, Richard Benton.....Buffalo, N. Y.
Kellogg, Hazel Gay.....Titusville
Kimble, John Howard.....Mercer
Lane, Winfield Scott.....Mt. Pleasant
Lindberg, Paul C.....Homestead
Longfellow, Newton.....Minneapolis, Minn.
Lord, Maurice M. .....Meadville
McGowan, James Reese.....Smethport
McKay, Eleanor.....Meadville
Marvin, Isabelle Edith.....Meadville
Maxwell, Glenn Stanley.....Meadville
Mayer, Donald Regis.....Meadville
Mechlin, Fred Joseph.....Grove City
Mellon, Melvin Guy.....Conneaut Lake
Miller, Carl Cummings.....Mt. Pleasant
Miller, Lawrence Theodore.....Meadville
Moorhead, Marion Adrian.....Beaver
Mueller, Gertrude Anna.....South Bend, Ind.
Nicholls, Jonter Arthur.....Sharon
Parsons, Willard Deichman.....Saegertown
Perley, Seth Todd.....Erie
Pierson, John Clarence.....Meadville

Pitcairn, Katherine.....Sharon
Ramirez, Pedro Ortiz.....Maunabo, Porto Rico
Ramsey, Harry Floyd.....Renfrew
Ramsey, Nathan LeRoy.....Renfrew
Rea, Caroline Lois.....Linesville
Reed, Gertrude.....Sandy Lake
Reed, Jessie Stoner.....Scottdale
Reese, William.....Bolivar
Richard, Frank Alvin.....Turtle Creek
Ricker, Ruth Mildred.....Meadville
Riethmiller, Clara Frances.....Dayton, O.
Riggs, Cecil Harvey.....Moundsville, W. Va.
Riggs, Roland Winfield.....Brookville
Robinson, Jennette Goldstrohm.....Boston
Scott, Florence Marie.....Meadville
Seiler, Marion.....Sprankle Mills
Seitz, Margaret.....Hamilton
Severson, Emerette.....Williamsport
Shoup, Ira Beatty.....Muzette
Shryock, Gertrude Miriam.....Meadville
Siggins, Howard William.....Meadville
Smith, Rachel Eleanor.....Meadville
Spohr, J. Arthur.....Meadville
Strauss, Charles Leonard.....Saegertown
Strong, Lucile Katherine.....Mt. Jewett
Sweetland, Clair.....South Dayton, N. Y.
Thoburn, Isabella.....Meadville
Thoburn, Theodore.....Meadville
Thoburn, Thomas Wilson.....Meadville
Thomas, Guy H.....Linesville
Thomas, Mary Helen.....Meadville
Thomas, Paul Eugene.....Meadville
Thompson, Ada Belle.....Cochranton
Tiffany, Jessie Marion.....Meadville
Unangst, Cecil Milroy.....Cochranton
Walker, Charles Roland.....Bruin
Waring, Marie.....Mansfield, O.
Waugaman, Arthur Rankin.....Meadville
Weidle, Everett Steele.....Erie
Weissenborn, Thelma Ora.....Jersey City

Whiting, William Alonzo.....Conneautville
Whittaker, Cosette.....Cochranton
Wicks, James Scott.....Bellevue
Wilkins, Bernice.....Union City
Wilkins, Isma.....Union City
Yost, Edna A.....South Fork
Zelwis, Albert .....Pittsburgh

Freshmen, 125.

SPECIAL STUDENTS.

Barstow, Harry Eldred.....Bryan, O.
Cobern, Miriam.....Meadville
Swartley, Annette.....Meadville
Swift, Carrie Ladds.....Franklin
Weaver, Forrest Phipps.....Meadville

Special, 5.

SUMMARY.

	Men.	Women.	
Resident Graduates	1	2	3
Seniors	36	28	64
Juniors	36	27	63
Sophomores	63	34	97
Freshmen	78	47	125
Special	2	3	5
Total	216	141	357

DEGREES CONFERRED JUNE 22, 1910.

Doctor of Divinity.

Rev. Philip Kraus
Rev. Charles Miner Miller
Rev. William Arthur Shanklin
Rev. Arthur Staples

Master of Arts.

Vera Bash
Stanley Bright
Jessie Frances Fitch
Charles A. Hartung
Francis L. La Bounty

Master of Science.

Ralph E. Irwin

Bachelor of Arts.

Grover Charles Andrews
Clarence Dewitt Baker
Margaret Hyde Beebe
Ethel Miller Berry
Lena Rosalia Bly
Reuben Earl Boyd
Frederic Bright
John Howard Broadbent
Edith Elizabeth Burchard
William Wright Burt
Nellie Margaret Campbell
Sophia Bell Campbell
Louise Chase
George Criswell, Jr.
Dale Forest Croasmun
Jessamine Blanche DeHaven
Michael Angelo DeVitis
Helen Amelia Dungan
Hazel Emery
William Gustaf Fixel
John Warner Fox
James Reid Gahan
Emma Aline Gillett
Harley Nathan Gould
Joseph LeRoy Grandey
Lottie Shirley Hammett
Heber Reece Harper
Bernice Gertrude Hatch
Louis Max Hickernell
Albert Barker Hines
Grace Alberta Howard
Julia Martha Jones
Rose M. Kauffman
Harold Henry Lamb
Martha May Lewis
Ellen Leone McLean
Mabel Grace McLean
Samuel Laverne Maxwell
Grace Hattie Miller
Walter Leslie Morgan
Helen Grace Murray
Caroline Parsons
Joseph DuShane Piper
Maud Alice Pratt
Samuel Y. Rossiter
Floy A. Seymour
Alice Mae Strickland
William Arthur Swick
Roy H. Uhlinger
Elmer Harrison Wilds
Frederick George Willey
Russell Raymond Yost

Bachelor of Science.

Wendell Phillipp Ball
Ethel Miller Berry
Howard Davison Hilborn
Claire Newton Jones
Essex Penman
Roy Lavere Phillips
Harry Gaillard Riblet
Clifford Edmund Smock

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA.

Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1910.

From the Senior Class.

Margaret Hyde Beebe
Ethel Miller Berry
Frederic Bright
Hazel Emery
Rose M. Kauffman
Harold Henry Lamb
Samuel Laverne Maxwell
Floy A. Seymour
Elmer Harrison Wilds
Russell Raymond Yost

Annual Address, June 20, 1910.

Professor J. Laurence Laughlin,

Subject, "Academic Impressions of Germany."

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THE COLLEGE BULLETIN

SERIES XI, No. 1
FEBRUARY, 1912

CATALOGUE

1911-1912

ALLEGHENY COLLEGE

FOUNDED IN 1815

NINETY-SEVENTH YEAR

CATALOGUE

OF

ALLEGHENY COLLEGE

FOR

1911-1912

MEADVILLE, PA.
1912

THE ALLEGHENY COLLEGE BULLETIN

PUBLISHED QUARTERLY
BY THE COLLEGE.

SERIES XI, No. 1.
FEBRUARY, 1912.

Entered as second-class matter in the postoffice at Meadville, Pa.

CATALOGUE FOR THE ACADEMIC YEAR 1911-12

AND ANNOUNCEMENTS OF COURSES FOR 1912-13

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1912

APRIL

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1913

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JUNE

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CALENDAR.

1912.

April 24, Wednesday—Founders' Day, a holiday.

24, Wednesday—Last day for presenting Senior Orations and Theses.

May 10, Friday—Choice of Senior Speakers.

30, Thursday—Memorial Day, a holiday.

June 7, 8, 10, 11—Senior Examinations.

10, 11, 12, 13, 14, 15—Second Term Examinations.

16, Sunday, 10:45 a. m.—Baccalaureate Sermon by President William H. Crawford.

7:45 p. m.—Annual Sermon before the Christian Associations.

17, 18, Monday and Tuesday—Entrance Examinations.

17, Monday, 2:00 p. m.—Class Day Exercises.

4:00 p. m.—Annual Meeting of the Phi Beta Kappa Society.

7:30 p. m.—Phi Beta Kappa Address.

9:00 p. m.—President's Reception.

18, Tuesday, 9:00 a. m.—Annual Meeting of the Board of Trustees.

4:00 p. m.—Organ Recital.

7:30 p. m.—Commencement Concert.

19, Wednesday, 9:30 a. m.—Commencement Exercises.

1:00 p. m.—Meeting of the Alumni Association. Annual Dinner.

6:00 p. m.—Fraternity Banquets.

SUMMER VACATION.

1912.

Sept. 17, Tuesday—First Term Begins.

16, 17, Monday and Tuesday—Entrance Examinations.

17, Tuesday—Registration of New Students.

18, Wednesday—Registration of Old Students.

19, Thursday, 8:00 a. m.—Recitations Begin.

Nov. 6, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

28, Thursday—Thanksgiving Day, a holiday.

Dec. 20, Friday, 12:30 p. m.—Recitations Close.

CHRISTMAS RECESS.

1913.

Jan. 8, Wednesday, 8:00 a. m.—Recitations Resumed.

15, Wednesday—Last Day for Presenting Senior Orations and Theses.

Jan. 24-Jan. 31—First Term Examinations.

Jan. 31, Friday, 4:00 p. m.—First Term Ends.

Feb. 4, Tuesday—Second Term Begins. Registration of Students.

5, Wednesday, 8:00 a. m.—Recitations Begin.

6, Thursday—Wakefield Oratorical Contest.

22, Saturday—Washington's Birthday, a holiday. The College Dinner.

Mar. 5, Wednesday—Last Day for Submitting Subjects of Senior Orations and Theses.

21, Friday, 12:30—Recitations Close.

SPRING RECESS.

April 1, Tuesday, 8:00 a. m.—Recitations Resumed.

24, Thursday—Founders' Day, a holiday.

30, Wednesday—Last Day for Presenting Senior Orations and Theses.

May 10, Saturday—Choice of Senior Speakers.

June 18, Wednesday—Commencement.

BOARD OF TRUSTEES.

Ex-Officio.

His Excellency JOHN K. TENER,
Governor of the Commonwealth.

Hon. James T. Mitchell,
Chief Justice of the Supreme Court.

Hon. John C. Bell,
Attorney General.

Harvey Henderson, ... Pittsburgh
William Thomas, ... Meadville
John J. Henderson, LL.D., . . . Meadville
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Rev. Joseph W. Miles, D.D., . . Pittsburgh
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James P. Colter, ... Meadville
James W. Kinnear, ... Pittsburgh
Gorton B. Chase, ... Greenvil e
Rev. Thomas H. Woodring, D.D., . Tarentum
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Rev. William H. Crawford, D.D., LL.D., Meadville
John E. Rigg, M.D., . . . Wilkinsburg
Edward Appleyard, . . Jamestown, N.Y.
Wesley B. Best, ... Meadville
Rev.Thomas N. Boyle, D.D.,* . . Crafton
Jesse C. McDowell, ... Pittsburgh
John V. Ritts, ... Butler
Charles Miller, ... Franklin
John S. Craig, ... Pittsburgh

*Deceased.

AUSTIN BLAKESLEE, ... Du Bois
REV. NOBLE G. MILLER, D.D., . . Blairsville
TRUMAN D. COLLINS, ... Nebraska
A. M. SCHOYER, ... Pittsburgh
NELSON A. RIST, ... Dawson
JOHN J. CARTER, ... Titusville
REV. J. C. McDONALD, ... Meadville
ARTHUR L. BATES, ... Meadville
SIMPSON S. FORD, ... Cleveland, O.
ROBERT B. WARD, ... New York
C. E. WELCH, ... Westfield, N. Y.
BISHOP JAMES M. THOBURN, D.D., LL. D., Meadville
SARAH B. COCHRAN, ... Dawson
REV. ROBERT M. FRESHWATER, D.D., Madison, O.
J. A. HUSTON, ... Sewickley
J. A. STRICKLER, ... Wilkinsburg
GEORGE GREER, ... New Castle
BYRON A. WALKER, ... Erie
W. S. HORNER, ... Pittsburgh
REV. J. M. THOBURN, D.D., . . . Ben Avon
D. E. BYLES, ... Oil City
REV. C. W. MINER, D.D., ... Sharon

Officers of the Board.

FRANK A. ARTER, ... President
JOHN J. HENDERSON, . . . Vice-President
JAMES P. COLTER, ... Secretary

Executive Committee.

WILLIAM H. CRAWFORD, ... Chairman
JAMES P. COLTER, ... Secretary
FRANK A. ARTER.
WESLEY B. BEST ANDREW C. ELLIS

Treasurer of the College.

GEORGE D. THOMAS.

FACULTY.

WILLIAM H. CRAWFORD, D.D., LL. D.,
PRESIDENT,
Professor of Ethics.

WILLIAM T. DUTTON, C. E.,
Francis Asbury Arter Professor of Mathematics and Civil Engineering.

WILLIAM A. ELLIOTT, A.M., L.H.D.,
Professor of Greek Language and Literature.

CLARENCE F. ROSS, A.M.,
Bradley Professor of Latin Language and Literature.
SECRETARY.

FRANK C. LOCKWOOD, Ph.D.,
Eliza Kingsley Arter Professor of English Language and Literature.

ROBERT S. BREED, Ph.D.,
Professor of Biology.

GEORGE A. MULFINGER, Ph.D.,*
Professor of German Language and Literature.

* Absent on leave, Sabbatic year.

CAMDEN M. COBERN, Ph.D., Litt.D.,
James M. Thoburn Professor of English Bible and Philosophy of Religion.

CHARLES J. LING, Ph.D.,
Professor of Physics and Astronomy.

OSCAR P. AKERS, Ph.D.,
Professor of Mathematics.

R. EDWIN LEE, A.M., M.Sc.,
Professor of Chemistry.

GUY E. SNAVELY, Ph.D.,
Professor of Romance Languages and Literatures.
REGISTRAR.

ALICE HUNTINGTON SPALDING,
Instructor in Public Speaking.
DEAN OF WOMEN.

GILBERT G. BENJAMIN, Ph.D.,
Professor of History and Economics.

MALCOLM DEWEY, A.M.,
Acting Professor of German.

STANLEY S. SWARTLEY, A.M.,
Instructor in English.

EDITH ROWLEY, A.B.,
Librarian.

LAURENCE M. RIDDLE, A.M.,
Instructor in French.

ALBERT W. GILES, M.S.,
Instructor in Geology.

MARGARET HYDE BEEBE, A.B.,
Instructor in Classics.

T. DUDLEY BALLINGER, A.B.,
Instructor in Biology.

ARTHUR A. SWANSON, B.S.,
Instructor in Chemistry.

EDWARD J. STEWART,
Physical Director.

CHARLES C. HASELY,
Laboratory Assistant in Chemistry.

BEN H. BALL,
Laboratory Assistant in Physics.

COMMITTEES OF THE FACULTY.

Registration.

THE PRESIDENT — THE REGISTRAR
PROFESSOR ROSS — PROFESSOR BREED
PROFESSOR COBERN

Courses of Study.

PROFESSOR ELLIOTT — PROFESSOR DUTTON
PROFESSOR LOCKWOOD — PROFESSOR DEWEY
PROFESSOR LING

Administration.

THE PRESIDENT — PROFESSOR ELLIOTT
PROFESSOR DUTTON

College Organizations.

PROFESSOR AKERS — PROFESSOR ROSS
PROFESSOR LOCKWOOD

Library.

PROFESSOR LOCKWOOD — PROFESSOR DEWEY
PROFESSOR ELLIOTT

Graduate Instruction.

PROFESSOR BREED — PROFESSOR SNAVELY

Athletics and Gymnasium.

PROFESSOR LEE — PROFESSOR DUTTON
PROFESSOR BENJAMIN

Accredited Preparatory Schools.

PROFESSOR ROSS — PROFESSOR LING
PROFESSOR BENJAMIN

College Book Store.

PROFESSOR LEE

Catalogue.

PROFESSOR SNAVELY — PROFESSOR LEE
PROFESSOR AKERS

College Council.

PROFESSOR LING — PROFESSOR AKERS

DESCRIPTION OF THE COLLEGE.

HISTORICAL SKETCH.

Allegheny College was founded in 1815 by citizens of Meadville, then a frontier village of some three or four hundred inhabitants. The first president was the Rev. Timothy Alden, a Presbyterian minister. The institution was chartered in 1817, and in 1820 the corner stone of the first building, Bentley Hall, was laid. In 1831 Dr. Alden resigned, and in 1833 the Rev Martin Ruter was elected to the presidency, since which time the College has been under the general patronage of the Methodist Episcopal Church. It has always been understood, however, both by the trustees of the College, and by its patrons, that the institution is to be conducted as the charter requires, on liberal principles, no person having any advantage, or being subjected to any disadvantage, on account of his religious views.

LOCATION.

Allegheny College is located in Meadville, Pennsylvania, on the main lines of the Erie, and Bessemer & Lake Erie railroads. An electric road gives direct connection with Erie and intervening points. Meadville has a population of more than twelve thousand. It is an old and well established town with attractive streets and residences, cultured society, and many educational influences. Being largely a residential town it has few of the disadvantages of city life. It has most of the advantages of a city, such as paved

streets, an effective sewerage system, an abundant supply of wholesome water from driven wells, arc and incandescent electric lights, natural gas, and an electric street railroad connecting all parts of the town with the college grounds.

The surrounding country is remarkable for its beautiful and diversified scenery. Within a short radius are some twenty miles of wild and rugged ravines of exceeding beauty, and the foothills of the Alleghenies which surround the town make the situation one of great attractiveness. The neighborhood is especially rich in material for the study of Botany and Geology.

BUILDINGS AND GROUNDS.

The college campus contains sixteen acres on the north edge of the town, nearly a mile from the business section, at an elevation of two hundred feet above French Creek and twelve hundred feet above the sea. It is abundantly shaded by numerous varieties of trees, many of them planted by students nearly a century ago. The ravine which passes through the campus and the situation overlooking the town and the valley for miles below, give a natural beauty hardly surpassed. The grounds are well provided with granolithic walks, and both grounds and buildings are kept in an attractive and sanitary condition.

The heating plant, situated in the upper ravine, supplies steam heat to all the college buildings. It is entirely adequate to the needs of the College.

Bentley Hall bears the name of the Rev. William Bentley, D.D., of Salem, Massachusetts, who gave his valuable library to the College. The corner stone

was laid in 1820. It consists of a central three-story building with tower, and two wings with massive pillars. The building contains the administration offices of the College and recitation and lecture rooms. The third floor is devoted to the halls of the literary societies with their libraries.

During the summer of 1905 extensive improvements were made in the interior of the building. New hard wood floors and oak wainscoting were put in, and new furniture throughout has been provided. These changes, made at a cost of about seven thousand dollars, have rendered the building very attractive and entirely modern without lessening its charm as a fine example of colonial architecture.

Ruter Hall, which bears the name of the Rev. Martin Ruter, D.D., the second president of the College, is a substantial brick building, erected in 1855, chiefly by the citizens of Meadville. On the first floor is the geological museum of the College. On the second floor are recitation rooms, a drawing room, an instrument room, and an office, used by the departments of Mathematics and Civil Engineering. The third floor is occupied by the department of Biology. Two laboratories, an office, a store room, a library and a lecture room occupy this floor.

Hulings Hall, a four-story brick building, ninety-four by one hundred forty feet, was erected in 1881, by Mr. Marcus Hulings, of Oil City, and citizens of Meadville. It is used as a home for young women, and accommodates about eighty. The building is well lighted and ventilated, is provided with fire escapes, and is in thoroughly good sanitary condition. It has recently been almost entirely refurnished. The rear

wing of the building contains on the fourth floor five large society halls; the first and second floors are occupied by the gymnasium for young women. The gymnasium has a clear floor space fifty-four by forty feet and is finished throughout in Georgia pine. It is provided with a full line of modern apparatus. In the basement are dressing rooms and baths.

Wilcox Hall of Science, named for Mr. and Mrs. Robertson Wilcox, of Girard, Pa., is a modern brick building built in 1892 for the department of Physics. It contains an amphitheatre lecture-room, seating one hundred students, physical laboratories, and a basement work shop. There are ten working rooms. In the construction of the building especial care was taken to provide abundant light.

The Gymnasium, erected in 1896, adjoins the athletic field. It is in the early Italian style of round arched architecture, and is constructed of native stone and brick. The building is T-shaped in plan, the front portion being two stories high, exclusive of the tower. The first floor contains the director's room, locker rooms, and baths. On the second floor there is an assembly room, and also a committee room, both for general use. The gymnasium floor, which occupies the rear extension, has a clear space of forty-five by eighty feet unobstructed by pillars, the roof being supported by steel trusses. The building is equipped with the appointments of a first class modern gymnasium.

Newton Observatory, completed in 1901, was made possible by the gift of Mrs. Mary M. Newton, of Batavia, Illinois, in memory of her husband, Captain D.

C. Newton, once a student in the College. It is a rock-faced stone building of fine architectural appearance, containing in addition to the observing room, a transit room, a computing room, and the director's office.

Ford Memorial Chapel was erected in 1901-2 through the generosity of Captain John B. Ford, of Creighton, Pa., in memory of his wife. The cost of the building was $34,000. It is of rock-faced Cleveland sandstone, in Gothic Romanesque style, with a spacious auditorium seating four hundred fifty, besides a gallery seating one hundred fifty, and an oratory seating one hundred fifty. The rich stained glass windows and the harmonious interior appointments add much to the stateliness of the building.

The chapel is provided with a splendid pipe organ, the gift of the granddaughters of Captain Ford, Mrs. J. A. Ballantyne and Misses Nellie and Stella Ford, who contributed $6,000 for this purpose. The organ was designed by Mr. W. L. Mayer, of Pittsburgh, and was built by the late Julius Neef, of Philadelphia. It has three manuals, and 1,920 pipes, and is supplied with the best devices of great modern organs.

The Library Building, the gift of an anonymous donor, was completed in 1902 at a cost of over $40,000. Its dimensions are eighty-five by seventy-four feet. It is constructed of vitrified brick with terra cotta trimmings, in Italian-Renaissance style. In addition to the stack room with a capacity of sixty thousand volumes, it contains a cataloguing room, librarian's rooms, general reading room, and a large reference reading room. On the second floor are the faculty room and department seminar rooms. The interior

appointments of the library are entirely in accord with the artistic character of the building.

Alden Hall. This building is one of the latest additions to the group of college buildings, and is devoted to the use of the department of Chemistry. It is built of gray vitrified brick and terra cotta, in English school style, with three floors and a basement. The building is commodious and well lighted. It contains ten rooms, and is well equipped with such apparatus as is necessary to the successful prosecution of work in the department.

Cochran Hall. By the generous gift of Mrs. Sarah B. Cochran, of Dawson, Pa., amounting to over sixty thousand dollars, provision has been made for a College Commons for young men. The building is constructed of brick with light terra cotta trimmings and tile roof. The architecture is of the Italian villa style with simple dignified lines, making the building, as a whole, the most imposing of the entire college group. The building contains on the first floor a reception hall, a main dining room, and a large lounging room for general purposes. The second floor is devoted to students' studies, sleeping rooms, and baths, and to a guests' suite. The building not only provides first class boarding accommodations, and at reasonable rates, but constitutes a rallying center for the young men of the College. Apart from the dining room and dormitory features of the building there are rooms for the Young Men's Christian Association which are admirably adapted to their purpose. In addition to the spacious room to be used as assembly, reading, and social room there are an office for the secretary, a

committee room, and a cloak room. Just off these apartments are four bowling alleys with shuffle board spaces adjoining.

LABORATORIES AND MUSEUM.

The Physical Laboratory. The department of Physics occupies Wilcox Hall of Science. It comprises a large, well-lighted lecture-room, a general laboratory, special laboratories for heat, light and electricity, two dark rooms, the professor's office, and department library and store room. The lecture-room is well adapted to the giving of illustrated lectures; and the department has a very complete projection outfit and a good collection of slides. The department has also the facilities for the construction of special pieces of apparatus needed in the laboratory.

The Chemical Laboratories. The department of Chemistry occupies the building known as Alden Hall. It consists of ten rooms and is devoted in its entirety to the uses of this department. On the first floor are located the private office and laboratory of the head of the department, balance room, laboratory for quantitative and gas analysis, reading room containing the department library, and a large well-ventilated lecture-room with complete equipment for experimental and illustrated lectures. On the second and third floors are found separate laboratories for general chemistry, organic chemistry, analytical chemistry, physical chemistry, and a dark room for photo-chemistry. In the basement are located the store room and laboratory preparation room.

All the laboratories are well lighted and ventilated,

and amply provided with facilities for various kinds of chemical work.

The Astronomical Observatory is equipped with a nine-inch equatorially mounted telescope, the objective of which was a gift of Mr. J. C. McDowell, of Pittsburgh, and was made by Brashear, of Allegheny, Pa. The graduated silver circles for this telescope were given by Mrs. Elizabeth Whiting of Meadville. A seven and one half inch instrument, made by Alvin Clark and Son, is also included in the equipment. Other equipment includes a transit, a chronometer, a sextant, and a siderial clock. The clock is the gift of the children of Milton B. Goff, LL.D., in memory of their father, an alumnus and former professor of mathematics in the College. The mountings and other fixtures of the observatory were supplied by Messrs. Warner and Swasey, Cleveland, O.

Through the generosity of Colonel J. J. Carter, of Titusville, Pa., there has been added to the equipment of the observatory an elaborate filar micrometer for use with the nine-inch, designed and made by George N. Saegmuller, of the Bausch-Lomb-Saegmuller Co., of Rochester, N. Y. From the same source comes a high grade six-inch mining transit fitted with a Saegmuller solar attachment and a Shattuck solar attachment, thus enabling the department to prosecute field work in astronomy which is of value to engineers. A chronograph, made by Gaertner, of Chicago, and a break circuit attachment for the clock complete the new equipment which will enable the department to offer work to the student that will be comparable with other observatories having a glass of like magnitude.

Engineering Apparatus. In Mathematics and Engineering all necessary instruments, such as transits, levels, rods, and chains, for illustrating pure and applied mathematics are provided and are in practical use by the students in these subjects.

The Biological Laboratories are placed on the third floor of Ruter Hall where there is ample space and good light. The main laboratory receives the direct north light and is fitted with tables and microscopes for twenty students. In the same room are placed a large aquarium table fitted with running water, other tables for balanced salt and fresh water aquaria, and cases containing the herbarium and other material used in the laboratory work. The other half of the floor is divided into a lecture room, an office, a store room, and a smaller laboratory for advanced students. The lecture room contains cases for a collection of animals, charts, models, etc., used in lectures. The library, consisting of three hundred well selected volumes, is placed in two cases, one in the larger and one in the smaller laboratory. The smaller is fitted with all needed histological, embryological, and bacteriological apparatus.

The Geological Laboratory. During the past few years this department has used the biological laboratories for geological and mineralogical laboratory work. A small adjoining room has been fitted up for a geological library and serves also for the storage of the topographical maps and other supplies used in the laboratory work. A fine new polarizing microscope has just been purchased and the nucleus of a collection of rock slides started.

The Collections of the Natural History Museum are placed on the first and third floors of Ruter Hall. The geological and mineralogical collections are especially noteworthy and contain many valuable specimens including some type forms. The mineralogical collections have been entirely rearranged and relabeled during the past few years and the more than eight thousand specimens form one of the finest collections to be found in the entire state and serve as a splendid basis for the course in mineralogy recently introduced. The geological collections include the Smithsonian collection of rocks and rock-forming minerals as well as many other specimens, while the paleontological collection includes the series of Ward casts and many originals. Within the past few years, the nucleus of an exceedingly interesting and valuable collection of local fossils has been obtained largely through the efforts of William Millward, of the Class of 1909.

The zoological collections consist of several thousand specimens which are kept in cases on the first and third floors. The collections of invertebrates preserved in liquid, shells, and mounted birds are all very useful for the courses in Zoology. A herbarium which includes most of the local flora is placed on the third floor.

The museum is open to the public every Saturday, while the College is in session, from one to three p. m. At other times visitors are admitted on application to the custodian.

THE LIBRARY.

The Library contains 26,000 bound volumes, 3,000 volumes of periodicals and a large number of unbound

pamphlets, in all about 36,600 printed productions. The additions to all departments for 1910-11 were 1,744. The books are classified according to the decimal system. A dictionary card catalogue and other modern facilities for convenient use are provided. The reference room shelves about 2,000 volumes of books "reserved" for the various departments together with the dictionaries, encyclopedias and general reference works. These are in the latest editions and new works are added each year.

The administration aims to make the Library not only an auxiliary to the class instruction, but the center of the intellectual life of the College. The classical, literary and scientific clubs have headquarters in the building and rooms are set aside for advanced classes studying along special lines. The rules are such as will allow the widest use of the books with only such necessary restrictions as will secure the greatest good to the greatest number. The reading room regularly receives nearly one hundred periodicals, including local papers, dailies, and the best weeklies both religious and secular. An exchange table of college publications is supplied by the Campus and the Literary Monthly.

The Library is a government depository and also receives the state publications. Each department has an annual appropriation for the purchase of the latest technical and reference works. The access to such a wide range of books and periodicals, the training in the use of catalogues, bibliographies and reference works, and the wide range of technical and general periodical literature available are of great advantage to

the student. A book service is maintained with the Carnegie Library of Pittsburgh by which almost any book not available here may be secured quickly and at slight expense to the student. Exchange relations are also maintained with several other libraries. The Meadville Theological School extends library privileges to this College, and the students have access to the Meadville Public Library containing over 12,000 catalogued volumes.

The Library is open during the college year from 8 a. m. to 5:30 p. m. and three evenings a week.

GENERAL PURPOSE.

This institution is a college, not a university. It therefore does not undertake to fit the student to enter any profession without further technical study. In all departments of instruction the end sought is not specialization but thorough discipline and correct habits of observation and reflection. It is on this principle that the curricula are based. Under the various groups about three-fourths of the subjects are prescribed. These studies are such as have been found to be best adapted to secure symmetrical development. A wide range of electives is offered, enabling the student to lay the foundation for subsequent professional study. By a wise choice of electives a student may in some cases shorten by a year the time required to complete his professional course. The experience of the college proves that its graduates are enabled to distinguish themselves in various careers whenever they have added to their college training the special equipment for a profession.

A large portion of college graduates enter not upon professional but upon business life. The general principle above stated applies to them with as much force as to those who enter professions. A college training does not teach a man how to do business successfully, but it does prepare him to learn any business rapidly, and to attain large success, if he has the requisite talent.

REQUIREMENTS FOR ADMISSION.

The requirements for admission are stated in terms of units. *A unit is defined as a course of study that has been pursued for a school year of at least thirty-six weeks, with four or five periods per week of not less than forty minutes each. However, not less than one hundred twenty periods of sixty minutes each or their equivalent shall be counted a unit.*

No science subject may be credited for entrance unless accompanied by satisfactory evidence of laboratory or field work. Exception may be made in the case of physiology.

Subjects accepted for entrance:

	Minimum.	Maximum.
English	3	3
Mathematics	2½	4
Foreign Language	4	7
Latin		
Greek		
French		
German		

Not less than two units in any language will be credited, unless continued further in college.

History	1	3
Ancient	..	1
Mediaeval and Modern	..	1
English	½	1
United States	½	1
Civics	..	½

Drawing		
Free Hand	..	½
Mechanical	..	½
Science	1	3
Biology	½	1½
Chemistry	..	1
Physics	..	1
Physiography	..	½
Geology	..	½

Not more than one unit of Biology may consist of General Zoology or Botany. Physiology may count as much as one half unit.

From the preceding list of units 15 must be offered for entrance to the freshman class. Of these 11½ units are absolutely required and 3½ may be elected from any of the units in the foregoing list.

The 11½ required units are as follows:

English	3
Mathematics	2½
Science	1
History	1
Foreign Language	4

For admission to Groups I. and II. these 4 units must be in Latin; to Groups III. and IV., two units must be in Latin; to Groups V., VI., VII., VIII., and IX., there is no restriction concerning the Latin.

The various Groups are described on pp. 40-45.

For conditional admission in the aforementioned Latin prerequisite see page 76.

DESCRIPTION OF UNIT REQUIREMENTS.

ENGLISH. The following is a definition of Units one, two, three and four, respectively, that may be offered as entrance credits in English:

(Unit one) Composition and Rhetoric.

(Units two and three) Reading from the list of required Readings below.

(Unit four) A history of English literature with additional readings from the English Classics.

Reading and Practice. A limited number of books are assigned for reading. The candidate is required to present evidence of a general knowledge of the subject-matter of these books, and to answer simple questions on the lives of their authors. The form of examination will usually be the writing of a paragraph or two on each of several topics, to be chosen by the candidate from a considerable number—perhaps ten or fifteen—set before him in the examination paper. The treatment of these topics is designed to test the candidate's power of clear and accurate expression, and calls for only a general knowledge of the substance of the books. In place of a part or the whole of this test, the candidate may present an exercise book, properly certified to by his instructor, containing composition or other written work done in connection with the reading of books. In preparation for this part of the requirement it is important that the candidates shall have been instructed in the fundamental principles of rhetoric.

The books set apart for the examination will be:—

In 1912—Group 1 (two books to be selected), Shakspere's As You Like It, Henry V., Julius Caesar, The Merchant of Venice, Twelfth Night.

Group 2 (one book to be selected), Bacon's Essays; Bunyan's Pilgrim's Progress, Part I.; the Sir Roger de Coverly Papers; Franklin's Autobiography.

Group 3 (one book to be selected), Chaucer's Prologue; Selections from Spencer's Faerie Queene; Pope's Rape of the Lock; Goldsmith's Deserted Village; Palgrave's Golden Treas-

ury (First Series), Books II. and III., with special attention to Dryden, Collins, Gray, Cooper, and Burns.

Group 4 (two books to be selected), Goldsmith's The Vicar of Wakefield; Scott's Ivanhoe and Quentin Durward; Hawthorne's The House of Seven Gables; Thackeray's Henry Esmond; Gaskell's Cranford; Dickens' A Tale of Two Cities; George Eliot's Silas Marner; Blackmore's Lorna Doone.

Group 5 (two books to be selected), Irving's Sketch Book; Lamb's Essays of Elia; De Quincey's Joan of Arc, and The English Mail-Coach; Carlyle's Heroes and Hero-Worship; Emerson's Essays (selected); Ruskin's Sesame and Lilies.

Group 6 (two books to be selected), Coleridge's The Ancient Mariner; Scott's The Lady of the Lake; Byron's Mazeppa and The Prisoner of Chillon; Palgrave's Golden Treasury (First Series), Book IV., with special attention to Wordsworth, Shelley, and Keats; Macaulay's Lays of Ancient Rome; Poe's Poems (selected); Lowell's The Vision of Sir Launfal; Arnold's Sohrab and Rustum; Longfellow's The Courtship of Miles Standish; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Browning's Poems (selected).

Study and Practice. A smaller number of books are assigned for more careful study. The examination based on these books covers subject-matter, form, and structure, and also tests the candidate's ability to express his knowledge with clearness and accuracy. In addition, the candidate may be required to answer questions involving the essentials of English grammar and questions on the leading facts in those periods of English literary history to which the prescribed works belong.

The books set for this part of the examination will be:—

In 1912—Shakspere's Macbeth; Milton's Lycidas, Comus, L'Allegro, and Il Penseroso; Tennyson's Gareth and Lynette, Lancelot and Elaine, and the Passing of Arthur; Burke's Speech on Conciliation with America, or Washington's Farewell Address and Webster's First Bunker Hill Oration; Macaulay's Life of Johnson, or Carlyle's Essay on Burns.

MATHEMATICS.—*Elementary Algebra.* (One unit or one and one half units.) The work in this subject should include the following: fundamental operations, factors, common divisors and multiples, involution including the binomial theorem for positive integral exponents, radicals, quadratic equations, ratio and proportion, theory of exponents, and arithmetic and geometric series.

A maximum of one and a half units may be given when the time spent in preparing to meet this requirement be at least a year and a half. It is suggested that the work of the last half year should be done late in the preparatory school course to insure a distinct and ready articulation with the required work of the freshman year in college. It is desirable that the student should come to his college work with well formed habits of neatness and accuracy, and that he have a ready knowledge of so much of mathematics as he may have studied.

Plane Geometry. (One unit.) The general properties of rectilinear figures, similar polygons, areas, and the measurement of polygons and the circle; the solution of original exercises, including loci problems.

Solid Geometry. (One half unit.) The relation of planes and lines in space; the properties and measurement of prisms, pyramids, cylinders, cones, and the sphere; the solution of original exercises, including loci problems.

Advanced Algebra. (One half unit.) A somewhat more extended treatment in review of the important topics of Elementary Algebra; such as fractional and negative exponents, radicals, factoring, the theory of quadratic equations (including maximum and minimum, and simultaneous quadratic equations), ratio, proportion, the progressions and the binomial theorem for positive integral exponents. In addition to these, the following topics should be included: permutations and combinations, undetermined coefficients, partial fractions, logarithms, theory of equations, including Horner's method, and the solution of numerical equations of higher degree.

Plane Trigonometry. (One half unit.) The definitions and relations of the six trigonometric functions as ratios, proofs of formulas, especially those for the sine, cosine and tangent

of the sum or difference of two angles, the relation between functions of an angle and those of double angles and half angles, inverse functions, and the solution of right and oblique triangles with applications.

LATIN.—The following requirements, as proposed by the Commission on College Entrance Requirements in Latin, have been adopted by the College:

I. AMOUNT AND RANGE OF THE READING REQUIRED.

1. The Latin reading required of candidates for admission to College, without regard to the prescription of particular authors and works, shall be not less *in amount* than Caesar, Gallic War, I-IV; Cicero, the orations against Catiline, for the Manilian Law, and for Archias; Vergil, Aeneid, I-VI.

2. The amount of reading specified above shall be selected by the schools from the following authors and works: Caesar (Gallic War and Civil War) and Nepos (Lives); Cicero (orations, letters, and De Senectute) and Sallust, (Catiline and Jugurthine War); Vergil (Bucolics, Georgics, and Aeneid) and Ovid (Metamorphoses, Fasti, and Tristia).

II. SUBJECTS AND SCOPE OF THE EXAMINATIONS.

1. *Translation at Sight.* Candidates will be examined in translation at sight of both prose and verse. The vocabulary, constructions, and range of ideas of the passages set will be suited to the preparation secured by the reading indicated above.

2. *Prescribed Reading.* Candidates will be examined also upon the following prescribed reading: Cicero, orations for the Manilian Law and for Archias, and Vergil, Aeneid, I, II, and either IV or VI at the option of the candidate, with questions on subject-matter, literary and historical allusions, and prosody. Every paper in which passages from the prescribed reading are set for translation will contain also one or more passages for translation at sight; and candidates must deal satisfactorily with both these parts of the paper, or they will not be given credit for either part.

3. *Grammar and Composition.* The examinations in grammar and composition will demand thorough knowledge

of all regular inflections, all common irregular forms, and the ordinary syntax and vocabulary of the prose authors read in school, with ability to use this knowledge in writing simple Latin prose. The words, constructions, and range of ideas called for in the examinations in composition will be such as are common in the reading of the year, or years, covered by the particular examination.

The credits given are as follows: Elementary Latin Book, such as Collar and Daniell or Bennett, including the reading of at least fifteen pages of easy connected prose, such as Viri Romae, one unit; Caesar with composition, one unit; Cicero with composition, one unit; Vergil, one unit.

GREEK.—(One unit.) First Greek Book and at least six chapters of Book I of Xenophon's Anabasis.

(One unit.) Xenophon's Anabasis through Book IV. Xenophon's Anabasis, Books V, VI, and VII, or Xenophon's Hellenika, Books I and II, or twelve hundred lines of Homer. Prose composition based on the texts read.

(One unit.) Homer's Iliad or Odyssey, about three thousand lines. Thorough knowledge of poetic form and prosody. About thirty pages of Attic prose with composition based thereon.

Throughout the work in Greek emphasis should be laid on accurate knowledge of forms and the ordinary rules of syntax, on the ability to read Greek aloud correctly and expressively, and on the ability to write rapidly and correctly in Greek simple English sentences based on the texts read.

Students expecting to enter Greek I in College should offer at least two units of entrance Greek. Students without Greek for entrance may begin the subject in Greek A. and in one year be prepared to enter Greek I.

GERMAN.—(One unit.) The first year's work should comprise: careful drill in pronunciation, dictation, memorizing of easy colloquial sentences, drill in the rudiments of grammar, i. e., the inflection of nouns, adjectives, pronouns, weak verbs, and the more usual strong verbs; the use of prepositions; the simplest rules of syntax and word order; simple exercises

in conversation; and the reading of from seventy to one hundred pages of a graduated text from a reader or from editions of easy texts.

2. (One unit.) The second year's work should comprise: the reading of one hundred fifty to two hundred pages of literature in the form of easy stories and plays; a further study of syntax; conversation based on the text read; practice in the translation into German of easy variations upon the matter read, and also in off-hand reproduction, sometimes orally and sometimes in writing, of the substance of selected passages.

3. (One unit.) The work of the third year includes, in addition to the courses above, the reading of about four hundred pages of moderately difficult prose or poetry, with constant practice in giving, sometimes orally, sometimes in writing, abstracts, paraphrases, or reproductions from memory of selected portions of the matter read; also grammatical drill upon the less usual strong verbs, the use of the article, cases, uses of the subjunctive and infinitive, complex sentence structure, uses of modal auxiliaries and participial constructions.

4. (One unit.) The fourth year of the study should be devoted to such works as Goethe's Iphigenie, Tasso, Hermann and Dorothea, Schiller's Wallenstein, standard prose of the grade represented by Freytag or Keller, some consideration of the chief lyric poets, prose composition, and some practice in theme writing.

FRENCH. (One unit.) First year French should comprise the following: (1) Careful drill in pronunciation, which should be re-enforced by dictation and conversation in the class-room. (2) Study of the Grammar, including the more usual irregular verbs; the grammar work in Part I of Fraser and Squair's French Grammar would be sufficient. (3) Regular practice in putting simple idiomatic sentences into French. (4) Reading of about two hundred duodecimo pages of easy standard French, such as is to be found in the more popular French Readers, Malot's Sans Famille, Bruno's Tour de la France, the stories of Erckmann-Chatrian, etc.

(One unit.) Second year French should include: (1) Continued work in dictation. (2) Memorizing of short poems. (3) Further practice of turning English into idiomatic French. (4) More detailed study of grammar, such as is contained in Fraser and Squair, Part II. (5) Reading of some three hundred pages of standard French of gradually increasing difficulty, such as the stories and plays of About, Daudet, Labiche, Mérimée, Sand, Scribe, etc.

(One unit.) Third year French should comprise the reading of some five hundred pages of more difficult French, including some masterpieces of French drama. Moreover, the student should be able to reproduce and paraphrase into idiomatic French parts of the works read. Texts should be selected from the works of Balzac, Beaumarchais, Corneille, Hugo, Marivaux, Molière, Musset, Racine, Vigny, Voltaire, etc.

ANCIENT HISTORY.—(One unit.) To the fall of the Roman Empire. Texts—Botsford, West, Myers.

MEDIAEVAL AND MODERN.—(One unit.) Texts, Myers. Robinson.

ENGLISH HISTORY.—(One half or one unit.) Cheyney, Larned.

AMERICAN HISTORY.—(One half or one unit.) Channing, Fiske, McMaster.

CIVICS.—(One half unit.) Fiske, Hart.

FREE-HAND DRAWING.—(One half unit.) The candidate must possess the ability to sketch, both in outline and with shading, simple objects such as a house, a small piece of machinery, a simple landscape, a group of geometrical figures, or an architectural ornament.

Certificates covering the above work, together with at least twenty specimen drawings, will be accepted.

MECHANICAL DRAWING.—(One half unit.) The candidate must be able to make projections in plan and elevation of geometrical figures, and to prepare working drawings of simple architectural and mechanical subjects.

Certificates covering this work, together with at least

twenty plates, illustrating the elements of Descriptive Geometry or of simple machine parts, will be accepted.

BIOLOGY.—Courses in Zoology, Botany, Physiology and Hygiene will also be accepted under this head provided they meet the requirements here given. Satisfactory outlines of courses are given in the syllabus published by the N. Y. State Eduational Department.

a. (One unit.) A course in General Biology extending throughout a year which shows the fundamental relationship between the animal and plant kingdoms and shows man's place in nature. A part of this course may deal with human philosophy. The course must be accompanied with laboratory work and the student must be prepared to submit a laboratory notebook properly certified if required to do so.

b. (One half to one unit.) Courses in General Zoology or General Botany of at least one half year in length. It is recommended that these be courses which deal with habits and ecological relationships as well as structure. Forms of animals or plants of local or of economic importance should be used as type forms so far as possible. Courses in Botany dealing solely with the flowering plants or courses in Zoology dealing solely with birds or insects will not be accepted. Laboratory work will be required in all cases and the student must be prepared to submit a properly certified notebook.

c. (One half unit.) Physiology and Hygiene. This must be a one half year course, and it is recommended that laboratory work be done with the course.

GEOLOGY.—(One half unit.) The materials of the earth, the work of the atmosphere, ground-water, running water, snow and ice, the oceans and lakes, vulcanism and diastrophism; rock structures; the history of the geologic periods from the Archæozic to the present.

Laboratory. Two hours per week for half a year. The common rock-forming materials; the classification of rocks; topographic maps and geologic folios illustrating the geologic processes and the distribution, nature, and structure of rocks of the different periods; the fossil plants and animals

most typical of each period. Norton's Elements of Geology, or Brigham's Text-book of Geology.

PHYSIOGRAPHY.—(One half unit.) The origin and significance of the great relief features of the earth, and the topographic forms of the land; the earth as a planet; the atmosphere; the climate; weather predictions. Appropriate field and laboratory work must accompany the study of the text. Certified laboratory notebooks must be presented if required. Suitable text books are Salisbury's Briefer Course in Physiography, Gilbert and Brigham's or Dryer's Physical Geographies.

CHEMISTRY.—(One unit.) The candidate's preparation in Chemistry should include: (a) The study of at least one standard text-book on General Chemistry, to the end that the pupil may obtain a comprehensive view of the more important facts of Elementary Chemistry. (b) Individual laboratory work, comprising at least forty exercises. The laboratory note-book, certified by the candidate's instructor, must be presented.

PHYSICS.—(One unit.) The amount and extent of the class work demanded for entrance in physics may be indicated by such texts as Millikan and Gale's First Course, Hoadley's Elements or Carhart & Chute's High School Physics. In laboratory the work should include at least thirty quantitative experiments supplementing the class work, performed by the student, and recorded in a carefully prepared note-book.

ADMISSION WITH CONDITIONS.

Students who have not fully completed the subjects specified for the course they wish to enter may be admitted to the freshman class conditionally, but not if the sum of their deficiencies exceeds a half year's work, nor if in the judgment of the Registration committee they are not fitted to do college work to advantage. They will be admitted to such college classes as they may be qualified to enter. Under certain

fixed restrictions, credit may be obtained on entrance for work done in college subjects and such advanced credit may be offset against deficiencies in preparatory work until the latter can be removed.

SPECIAL STUDENTS.

Persons desiring to pursue studies in the College are, as a rule, required to be prepared to enter the freshman class as candidates for one of the degrees. Under exceptional circumstances, however, persons who are not candidates for a degree may be admitted as special students and allowed to pursue selected studies. Every such person will be required to satisfy the Faculty that he is prepared to do, with profit, the work which he selects. Each case will be decided on its own merits.

ENTRANCE EXAMINATIONS.

Examinations for admission are held on Monday and Tuesday of Commencement week, and on Monday and Tuesday preceding the opening of the First Term.

All examinations except those taken in Meadville are under direction of the College Entrance Examination Board, whose certificates are accepted in place of examinations in all subjects.

ADMISSION BY CERTIFICATE.

In place of examinations in studies required for admission to College, certificates will be accepted from approved high schools having a regular four years' course in case of students regularly graduating in such a course. Certificates will also be accepted in case of graduates of a three years' high school course provided they pass entrance examinations of not less than three units additional to their certificate.

Certificates will not be accepted in case of students who are not graduates of the school from which the certificates are presented. *Students entering by certificate are considered as on trial until the completion of the mid-year examination, and the right is reserved to require further preparatory work from students who are not able to make satisfactory progress in college classes.*

In all cases an examination in English is required adapted to test the student's power of correct and idiomatic expression. No one will be accepted in English whose work is notably defective in point of spelling, punctuation, idiom, or division into paragraphs.

Principals of schools desiring to have their schools placed on the approved list are invited to address the President of the College.

Diplomas from the Regents of the State of New York will be accepted. All other certificates must be made out on special blanks, which will be sent on application.

The applicant for admission should also bring with him all laboratory note-books, exercise books, and other evidence of work done, properly certified to by the teacher.

All candidates for admission must present satisfactory testimonials of good moral character; and certificates of regular dismission will be required from those who have been matriculated at other institutions.

Requirements for Graduation to the Degree of Bachelor of Arts.

FRESHMAN YEAR.

	First Term.	Second Term.
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Mathematics or Science	3 or 4	3 or 4

One course from each of two of the following departments:

Latin, Greek, French, German, History.

These two courses will count as part of the student's Group Electives as detailed on pp. 40, 41.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group I. he should choose Latin and Greek.

For Group II. he should choose Latin or Greek and German or French.

For Group III. he should choose French and German.

For Group IV., if he is to do his major work in History, he should choose History and Latin or Greek or French or German. If he is to do his major work in English, he may choose any two of the subjects.

Not less than fifteen and not more than seventeen hours are to be taken weekly.

SOPHOMORE YEAR.

	First Term.	Second Term.
English II.	3	..
*Mathematics or Science	4 or 3	4 or 3
History or Economics or Political Science	3	3

Group Electives [See pp. 40, 41] to make not less than fifteen and not more than seventeen hours weekly.

*Candidates for the degree of Bachelor of Arts are required to take fourteen hours of mathematics or science, or fourteen hours of mathematics and science, i. e., this entire number of hours may be elected from mathematics or from science, or part from mathematics and the remainder, enough to make fourteen hours, may be elected from laboratory science subjects.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy I., II.	3	3

This subject may be taken in the sophomore year if the student is to do his major work in philosophy.

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis the first term and an oration the second term. See page 86.

Group Electives and Free Electives chosen from the list on pages 87-90 to make a total for the course of not less than one hundred twenty term-hours.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of Groups I., II., III., IV., in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 97.

Group I.

1. In one department, Greek or Latin.....20 hrs.
2. In a second department, Latin or Greek.....14 hrs.
3. In a third department, English, History, Philosophy, French, or German .....14 hrs.
4. In a fourth department, English, History, Philosophy, French, or German ..... 6 hrs.

Group II.

1. In one department, Latin or Greek.....20 hrs.
2. In a second department, French or German.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, Greek, French, or German.....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin, Greek, French, or German..... 6 hrs.

Group III.

1. In one department, French or German.....20 hrs.
2. In a second department, German or French.....14 hrs.
3. In a third department, English, History, Philosophy, Latin, or Greek .....14 hrs.
4. In a fourth department, English, History, Philosophy, Latin or Greek ..... 6 hrs.

Students who present for admission less than two units in a modern language must, if this Group is chosen, take not less than eight hours additional to the above requirements, in the language chosen for the major subject.

Group IV.

1. In one department, English, History, or Philosophy.20 hrs.
2. In a second department, English, History, or Philosophy .....14 hrs.
3. In a third department, Latin, Greek, French, or German .....14 hrs.
4. In a fourth department, Latin, Greek, French, or German ..... 6 hrs.

Requirements for Graduation to the Degree of Bachelor of Science.

FRESHMAN YEAR.

	First Term.	Second Term.
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Foreign Language: French, German, Latin, or Greek	4	4
Mathematics I.	3	3
Science—Biology, Chemistry, or Physics	4	4

This course will count as part of the student's Group Electives as detailed on p. 44.

The student's choice should be determined by the Group in which he intends to do his subsequent work.

For Group V., he should choose Biology.

For Group VI., he should choose Chemistry.

For Group VII., he should choose Physics.

For Group VIII., he should choose any one of the subjects.

SOPHOMORE YEAR.

	First Term.	Second Term.
English II.	3	..
*History or Economics or Political Science	3	3
Foreign Language, continuing the language taken in the freshman year	4 or 3	4 or 3

Group Electives [See page 44] to make not less than fifteen and not more than seventeen hours weekly.

JUNIOR YEAR.

	First Term.	Second Term.
Philosophy I., II.	3	3

Group Electives and Free Electives to make not less than fourteen and not more than sixteen hours weekly.

SENIOR YEAR.

A thesis the first term and an oration or a thesis the second term. See page 86.

Group Electives and Free Electives chosen from the list on pages 87-90 to make a total for the course of not less than one hundred twenty term hours.

*This work may be postponed to the junior year in case it is necessary for the student to continue a subject begun the freshman year.

GROUP ELECTIVES.

At the beginning of the sophomore year each student shall record at the Registrar's office his choice of one of Groups V., VI., VII., or VIII., in which his work is to be done.

The head of the department in which the major work is done becomes the student's adviser. See page 97.

Group V.

1. Biology ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Physics ..... 8 hrs.

Group VI.

1. Chemistry ..... 20 hrs.
2. Biology or Physics ..... 14 hrs.
3. Biology or Mathematics or Physics ..... 8 hrs.

Group VII.

1. Physics ..... 20 hrs.
2. Chemistry ..... 14 hrs.
3. Mathematics ..... 8 hrs.

Group VIII.

1. Mathematics ..... 20 hrs.
2. Physics ..... 14 hrs.
3. Biology or Chemistry ..... 8 hrs.

Engineering Course.

FRESHMAN YEAR.

	First Term.	Second Term.
Mathematics I.	3	3
English I.	2	2
Public Speaking I.	1	1
English Bible I.	2	2
Chemistry I.	4	4
Graphics I., II.	4	4
	16	16

SOPHOMORE YEAR.

Mathematics II.	4	4
Physics I. and II.	6	6
English II.	3	..
Engineering I., II.	3	3
Graphics III.	..	3
	16	16

JUNIOR YEAR.

Physics III.	2	2
Graphics IV., V.	3	3
Engineering III.	3	..
Engineering IV., V.	3	3
Graphics VI.	..	3
Chemistry II.	3	3
	14	14

SENIOR YEAR.

Engineering VI.	4	4
Engineering Chemistry	4	4
Geology II.	3	..
Astronomy I.	3	..
Astronomy II.	..	2
Engineering VII.	..	4
	14	14

COURSES OF INSTRUCTION

BY DEPARTMENTS.

In this detailed description of the courses of instruction the number of "hours" refers to the number of hour recitations weekly. Each term is eighteen weeks in length.

All courses are offered yearly, except as specially noted.

Any elective course may be withdrawn if not chosen by at least four students.

Two hours of laboratory work are counted as equivalent to one recitation hour.

ASTRONOMY.

The courses in Astronomy have two objects in view. Courses I. and IV. are general descriptive courses, designed to give the student a comprehensive view of the science and to acquaint him with the history of the growth of the universe, and the laws which govern its members. The students are given an opportunity to study the members of the solar system, the moon, star clusters, and nebulae, with the nine-inch equatorial in the Newton Observatory. Course II. is practical, and it is intended primarily for engineering students.

COURSE I.—Elements of Descriptive Astronomy. A study of the earth and its relation to the other members of the solar system; the laws which govern the phenomena of the solar system; and a general descriptive outline of the heavenly bodies.

First term, three hours.

COURSE II.—Field Astronomy. Determination of time, latitude, and longitude, by the transit, sextant and chronome-

ter. Open to those who have completed Trigonometry, Astronomy I., and the first term of Physics I.

Second term, two hours.

COURSE III.—Advanced Descriptive Astronomy. A more detailed and advanced study of the topics presented under Course I. Open to students who have completed Trigonometry, Physics I. and Astronomy I.

Second term, three hours.

COURSE IV.—History of Astronomy. A course tracing the progress of the science from early times, including the work of the celebrated pioneers, down to the present day. Open to students who have completed Course I.

Second term, two hours.

COURSE V.—Spherical and Practical Astronomy. For advanced students. The theory of observation and instruments. The theory and practice of determination of time, latitude, and longitude. Eclipses and occultations. Double star observations. Positions of planets and comets with the nine-inch equatorial. Open to students who have completed Mathematics II., Physics I., and Astronomy I., and may be begun either the first or second term.

Throughout the year, three to five hours.

BIOLOGY.

In the presentation of the courses of this department, the broadest aspects of the living world are kept continuously in mind. The fundamental course on which all of the others are based (Course I.) presents a view of the whole field of living things and their relationships, together with the main underlying laws which govern this kingdom. The remaining courses are intended to serve the purposes of students fitting for special lines of work, but an effort is made in all of them to so direct and train the powers of observation in the student that any or all of them have a true cultural value.

GENERAL BIOLOGY.

COURSE I.—Elementary Biology. After a discussion of the field to be covered, the work of the first term is largely zoological in character. During the second term, the course deals with the plant kingdom, ending with a discussion of the laws which have governed the development of the two kingdoms. The laboratory work consists of the study of a series of typical animals and plants together with introductory work in various divisions of the biological sciences such as morphology, physiology, embryology and ecology. Lectures and recitations, two or three hours a week; laboratory work, three hours a week.

Throughout the year, four hours.

COURSE II.—Historical and Theoretical Biology. This course takes up the development of the main biological laws and theories from a historical standpoint. Open to students who have taken Course I. and who are taking advanced courses in the department. Required of all students who take more than two courses in the department.

Throughout the year, one hour.

ZOOLOGY.

COURSE III.—Invertebrate Zoology. The external and internal morphology of a series of typical invertebrate animals which are dissected in the laboratory. Open to those students who have had Course I. or a satisfactory course in high school zoology. See Course VII. Lectures, two hours a week; laboratory work, four hours a week.

Second term, four hours.

COURSE IV.—Comparative Anatomy of Vertebrates. The dogfish, salamander, turtle and cat are dissected and studied in this course. Recommended for all students who are planning to study medicine or who expect to teach physiology. Open to all who have taken Course I. Lectures, one hour a week; laboratory work, four hours a week.

Throughout the year, three hours.

COURSE V.—Vertebrate Histology. Training in the preparation of tissues for examination with the microscope, and the

study of general histology. Elective for all who have taken Course III. or IV. Laboratory work with occasional lectures, eight hours a week.

First term, four hours.

COURSE VI.—Vertebrate Embryology. A study of the development of the chick. Many of the slides studied are furnished, but the student is required to prepare whole mounts and serial sections. Laboratory work with occasional lectures, eight hours a week. Elective for all who have had Course V.

Second term, four hours.

BOTANY.

COURSE VII.—Plant Anatomy and Physiology. The structure and functions of plant tissues and organs. This course forms a year's work with Course III. and is open to students who have had Course I. or a satisfactory course in high school Botany. Lectures, two hours a week; laboratory work, four hours a week.

First term, four hours.

COURSE VIII.—Cryptogamic and Phanerogamic Botany. The study of a series of typical plants. Open to students who have had Course I. Lectures, one hour a week; laboratory work, four hours a week.

Throughout the year, three hours.

COURSE IX.—Elementary Bacteriology. A course which deals with this interesting and important group of plants in their general biological technique. Open to students who have had Course I. and Chemistry I. or its equivalent. Lectures, one hour a week; laboratory work, four hours a week.

First term, three hours.

COURSE X.—Bacteriological Water and Milk Analysis. This course should be taken in connection with Chemistry VII. Open to students who have had Course IX. Laboratory work with occasional lectures, six hours a week.

Second term, three hours.

CHEMISTRY.

The courses offered by this department are intended to have both a cultural and a technical value. The work has been organized as the result of an endeavor to acquaint the student with the general and special principles of the work, to familiarize the worker with accurate methods of experimentation, to develop the ability to observe critically and accurately, and make correct inferences, and finally, to provide suitable preliminary training for independent research work.

COURSE I.—General Inorganic Chemistry. This course concerns itself with the fundamental principles on which the science is based. The non-metals, metalloids and metals, together with their more important compounds, are studied. Energy as a factor in chemical reactions receives special attention, as also do the elementary principles of chemical dynamics and statics. Stress is laid upon certain processes and various materials in their application to the commercial arts. Each student has a desk in the laboratory at which the required experiments are performed. More elaborate experiments to illustrate lectures are performed by the instructor. Text-book: Lee's Text-Book of Experimental Chemistry. Lectures and recitations two or three hours a week. Laboratory work two to four hours a week.

Throughout the year, four hours.

COURSE II.—Analytical Chemistry.—Qualitative Analysis. —Bases and Acids. The student is required to work through a system of preliminary analytic reactions. The more intimate knowledge of the elements and their compounds thus gained enables the student to verify the methods of grouping and separating the elements. At stated intervals, lectures and recitations will be devoted to discussions of all reactions. The modern theories of "solution," "precipitation," "chemical equilibrium," etc., receive much attention. Students are required at the conclusion of the work to analyze a given number of unknown substances without reference to the

manual. This course includes a brief course in Spectrum Analysis. Laboratory and lectures six hours a week throughout the year. Open to those who have completed Course I., or its equivalent.

Throughout the year, three hours.

COURSE III.—Analytical Chemistry.—Quantitative Analysis. The aim of this course is to provide a thorough knowledge of the principles of gravimetric and volumetric analysis as applied to the separation and determination of the common bases and acids found in salts, minerals, ores, etc. It is of special value as a training in the more refined methods of manipulation. Each student is required to calibrate a set of weights and all volumetric apparatus. The ability to make a quantitative analysis of an unknown substance is the final requirement.

Electro-Chemical Analysis.—A brief course in electrolytic methods of analysis is included in this course.

Laboratory work, eight hours per week. All laboratory work is supplemented by lectures. Open to those who have completed Course II., or its equivalent.

Throughout the year, four hours.

COURSE IV.—Gas Analysis. This course is offered because of the analyst's frequent need of this kind of training. It deals with the density of gases, with the volumetric and barometric methods of determining the composition of various gases, and with many modern practical applications of gasometric apparatus. Lectures and laboratory work eight hours a week for one term.

First or second term, four hours.

COURSE V.—Organic Chemistry. The work of this course begins with an historical sketch of the development of organic chemistry, and a consideration of such topics as, the nature of carbon, homology, isomerism, stero-isomerism, types of formulae, nomenclature, and classification of organic compounds. The compounds of the *aliphatic* and *aromatic* series are then studied in detail. Those compounds and processes

which are of technical or theoretical importance receive special attention. This course is recommended to those students who contemplate the study of medicine or other phases of chemico-biological work, or chemical engineering. Course VI. should be taken in conjunction with this course. Open to students who have completed Course II.

Throughout the year, three hours.

COURSE VI.—Organic Preparations, Reactions, and Analysis. This is a laboratory course involving methods for the preparation and purification, and the analysis of a number of typical organic compounds. The physical and reaction properties, and relationships of these compounds are then studied in detail. In the prosecution of this work the student becomes familiar with the apparatus and operations involved in the work of practical organic chemistry, such as crystallization, determination of melting and boiling points, fractional distillation, steam distillation, extraction, drying, determinations of molecular weights; and with the general methods of preparation, such as etherifications, oxidation and reduction, saponification, nitration, sulphonation, diazotization, etc. The work in organic analysis includes in addition to the usual qualitative tests, qualitative determinations of carbon, hydrogen, nitrogen and the halogens. Laboratory work, six hours per week. Open to those who have completed or are taking Course V.

Throughout the year, three hours.

COURSE VII.—Sanitary Analysis. This course deals with the chemical methods used in the analysis of milk, the sanitary analysis of water, and the examination of sewage. The analysis of air and fuel gases is included in this course. Six hours laboratory work per week. Open to those who have completed Course III.

Throughout the year, three hours.

COURSE VIII.—Advanced Analytical Chemistry. Technical Analysis. This course offers opportunity for advanced students to study methods of analysis along special lines. It is designed to familiarize the individual with many of the ana-

lytical methods in use in commercial laboratories. Three lines of work are open to the student: (a) the analysis of those substances which are inorganic in their nature, such as iron and steel, alloys, silicates and sulphides, ores, cements, coke and coal, and water; (b) the analysis of those substances essentially organic in nature, as foods, and the detection of adulterants; (c) Agricultural Chemistry, which includes analysis of soils, fertilizers, dairy products, etc.

Special courses in Biological Chemistry and Toxicological Analysis are offered to students preparing for the profession of chemistry or the study of medicine.

Throughout the year. Hours elective.

COURSE IX.—Physical Chemistry. This course aims to give the student a general knowledge of the principles of the subject by means of lectures, reading and laboratory work. This latter work will include the determination of "the heat of neutralization," "heat of solution," "speed of reaction," solubilities, molecular weights, conductives, refractive indices, and an experimental study of various other physical and chemical constants. Six hours per week.

Throughout the year, three hours.

COURSE X.—History and Development of Chemical Theory. This course endeavors to trace the development of chemistry from its earliest origins to the present time, by a study of the lives and influence of the men who have contributed to this phase of science. Lectures, collateral readings, and preparation of theses. Open to students who have completed Course I.

Throughout the year, two hours.

COURSE XI.—Engineering Chemistry. The work of this course has been outlined to meet the wants of those students pursuing engineering courses.

Throughout the year, four hours.

ECONOMICS.

Particular attention is given to the study of the development of economic life and institutions, Amer-

ican conditions being specifically analyzed. Students are made familiar with the accepted principles of the science and are given a practical acquaintance with the complex modern economic organization. Encouragement is also offered to individual research, leading to possible future specialization. Lectures, papers, and comparative examination of various authorities constitute the method of instruction.

COURSE I.—Principles of Economics. Introducing survey of industrial history, production and distribution, compassing the accepted elements of the science. The text used is Seager's Economics, and required readings are assigned in Marshall's Principles of Economics and in the Austrian authorities.

First term, three hours.

COURSE II.—Applied Economics. This is a continuation of Course I. and is a detailed examination of the economic principles applied in trusts, labor, tariff, taxation and finance. Social economics as presented in Wright's Practical Sociology is included. Lectures, conferences, papers, and individual investigations are the methods of instruction.

Second term, three hours.

COURSE III.—Economic Theories. History of the development of economic thought, including a study of the leading principles of the science as propounded in Adam Smith, Ricardo, Mill, Senior, Menger, Wieser, Böhm-Bawerk, Walker, and Clark. The seminar method is used. Open to a limited number of those who have completed Courses I. and II.

First term, two hours.

COURSE IV.—Transportation. A course of lectures on the American Railway—a study of railway economics and the problems of government regulation. An extensive use is made of the Inter-State Commerce Commission findings and national industrial data. Open to advanced students.

Second term, two hours.

ENGINEERING.

The instruction in this department covers the technical subjects that form the basis of engineering work. Constant use is made of instruments and much of the work consists of actual field work. With the exception of Course II., the courses are open only to students of the Civil Engineering Group.

COURSE I.—Highway Engineering. Methods of constructing Macadam, Telford, gravel and earth roads; wood, stone, brick and asphalt pavements for cities; and the method of maintaining country roads and city pavements.

First term, three hours.

COURSE II.—Surveying, with the compass, transit and level. The methods of determining areas. Laying out and dividing land. City surveying and plotting.

Second term, three hours.

COURSE III.—Railroad Surveying. This course includes a thorough study of railroad curves and earthwork. A complete survey is made for a railroad line about a mile in length. This survey includes the reconnaissance, preliminary and location surveys, the staking out of curves and earthwork and the necessary maps and computations.

First term, three hours.

COURSE IV.—Strength of Materials. This course includes a study of the strength and elasticity of beams and columns, with the applications of mechanics to design.

First term, three hours.

COURSE V.—Masonry Construction. This course includes instruction in the properties of the component materials and the details of construction for foundations, retaining walls and dams, together with the calculations for the stability of the same.

Second term, three hours.

COURSE VI.—Structural Engineering. This course includes a study of scientific engineering construction, with application to roof and bridge trusses, with the determination of the dimensions and details of the same. Design of a simple highway bridge with working drawings.

Throughout the year, four hours.

COURSE VII.—Reinforced Concrete. This course includes a study of the properties of cement and of the principles of reinforced concrete construction, including the general theory and applications to engineering structures.

Second term, three hours.

ENGLISH BIBLE.

The work in this department is intended to open to the student the rich stores of literature contained in the Bible; to familiarize him with the history of the Hebrew people, their civilization, and their influence on the world; and to lead to the critical study of the spirit and form of Hebrew literature as it is shown in the English version. The English Bible is studied as a great monument of our literature and as the source of our knowledge of one of the great civilizations of the world. The courses do not touch questions of doctrine or belief.

COURSE I.—A General Introduction to the English Bible. A brief sketch of the history of the Hebrew and Greek Bibles is offered and the evolution of the English Bible traced in detail and illustrated by rare original copies of the early translations. The course includes the history of the Hebrew people as told by their own chroniclers. A general survey of the different types of literature to be found in the Old and New Testaments will be given, especial attention being directed to the picturesque biography and to the historical crises which vitally affected the development of the nation. In connection with this the geography of the Holy Land and

the chronology of the historic and prophetic eras will be studied. The student will be constantly reminded of the influence of Bible thought and phrase upon modern literature. Moulton's Modern Reader's Bible will be used as text-book, but much of this course will be given in lectures which each student is required to keep in carefully written note-books which at intervals will be examined by the instructor in English.

Throughout the year, two hours.

COURSE II.—New Testament History and Literature. Stress is here laid on the importance of understanding the political and religious background of the life and thought embodied in the New Testament. To this end the Maccabean and Roman periods of Jewish history are carefully studied. The new light thrown upon the "Land and the Book" from recent explorations will be examined, and the social and industrial condition of the world in the times of Jesus and St. Paul noted. The relation of the Christian religion to the Old Testament religion and to the Greek and Persian mysteries will be traced. The Gospels and the Acts will be studied both from the historical and literary standpoints and the development of church life and thought will be carefully examined. The Epistolary and Apocalyptic literature will be studied in the order of its development and with constant reference to the new discoveries of contemporaneous documents. Open to those who have taken Course I.

Throughout the year, two hours.

Given in 1913-14.

COURSE III.—Old Testament History and Literature. The method here pursued is similar to that in the preceding course. The history of Palestine from the earliest times down to 165 B. C. is studied in connection with the life and development of the Hebrew people. The international connections with Egypt, Phoenicia, Syria, Assyria and Babylon are briefly traced and the political, social and religious influence noted. The marked eras of the nation's growth are sharply defined from the Conquest to the Exile and the later origin of Judaism explained. The Old Testament literature is taken up in the

order of its historic development and its relation to the life, thought and external history of the Israelites is brought out. The principles governing the proper interpretation of all Oriental writings are defined and applied to the early Bible narratives. The relations of the Bible to science are here examined. The literature of the Old Testament, taken up chronologically, is compared with contemporaneous writings. The latest results of Archaeology are made available. Particular attention is given to the origin, growth and character of the legal and wisdom literature and to the theology of the Prophets. A few of the greatest masterpieces, such as Job, Ecclesiastes, etc., are studied in detail.

Throughout the year, three hours.

Given in 1912-13.

ENGLISH LANGUAGE AND LITERATURE.

The aim of this department is to fit the student to use the English language as an instrument for the easy, idiomatic, and energetic expression of his thought; to train him, both by theory and by practice, for natural and effective public address; to acquaint him with the essential facts in the development of the English language and literature, and with the great authors who have created that literature; and to render him sensitive to the literary and aesthetic values of life. Rigorous and painstaking habits of scholarship are constantly inculcated; but the student is never allowed to forget that literature is vital—that it draws its subject-matter and its inspiration from life, and in turn transmutes the crude and imperfect forms of life into beauty and character.

COURSE I.—The Elements of Rhetoric together with Selected Readings in English Literature. The chief purposes of this course are to train the student in the use of easy, precise, and idiomatic English, and to foster an interest in the best

examples of English literature. It is believed that successful instruction in rhetoric depends not so much upon precept as upon example and practice; the student is, therefore, encouraged to write freely upon subjects that appeal to him, and that spring naturally from the interests and activities of his daily life. The instructor corrects each paper in detail and makes appointments with each student for private consultation. The instruction is made extremely flexible, and freshness and variety of method are constantly sought.

Throughout the year, two hours.

COURSE II.—Advanced Rhetoric. A careful study of the four great forms of discourse, Narration, Description, Exposition, and Argumentation. The method of instruction is both critical and constructive. Lectures, text-book, and class discussion. Fortnightly themes are required; and provision is made for private consultation with the instructor.

First term, three hours.

COURSE III.—Introduction to English Literature. 1. An outline history of the development of English literature. 2. Collateral reading. 3. The study and interpretation, in class, of Shakspere's Hamlet, Milton's Minor Poems, and Pope's Rape of the Lock. Oral recitation, lectures, class discussion, and written tests.

Elective for all students who have completed Course II., and required of all who desire to do advanced work in English.

Second term, three hours.

COURSE IV.—English Poetry from 1789 to 1832. Copious readings from the poetry of Burns, Wordsworth, Scott, Byron, Shelley, and Keats. The constant aim is to arouse in the mind of the student an intelligent enthusiasm for the great poetry of the period; and, while holding him to accurate and diligent scholarship, to show him how life and literature interpenetrate.

Elective for all students who have completed Courses I., II., and III.

Throughout the year, three hours.

Given in 1913-14.

COURSE V.—The Victorian Period of English Literature. Landor, Carlyle, Tennyson, Arnold, Ruskin, and Browning. Conducted in the same manner as is Course IV., with which it alternates.

Throughout the year, three hours.

Given in 1912-13.

COURSE VI.—American Literature. Outlines of its development. Lectures upon representative authors. The critical study and interpretation of masterpieces. Appreciations and essays by members of the class.

Elective for all students who have completed Course IV., or Course V., and to a limited number who have completed Course III.

First term, two hours.

Given in 1912-13.

COURSE VII.—Elements of Literary Criticism. Winchester's Principles of Literary Criticism. A systematic inquiry into the essential elements of literature, and a detailed consideration of the various forms of literature. A considerable amount of illustrative reading is expected, and the student is required to test two or three classic productions by a practical application of the principles of criticism.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1912-13.

COURSE VIII.—Prose Fiction. Bliss Perry's A Study of Prose Fiction. The novel, the romance, and the short story. Studies in the structure and the significance of these popular forms of modern English fiction. Illustrative readings and carefully prepared papers.

Elective under the same conditions as Course VI.

First term, two hours.

Given in 1913-14.

COURSE IX.—Shakspere. Analytic and interpretative studies of five plays of Shakspere: As You Like It, Othello, King Lear, Antony and Cleopatra, The Tempest. A careful

reading of Dowden's Shakspere Primer is required in connection with this course.

Elective under the same conditions as Course VI.

Second term, two hours.

Given in 1913-14.

COURSE X.—Anglo-Saxon. First term: Old English Grammar. Reading of prose selections from Bright's Anglo-Saxon Reader.

Elective for all students who have completed Course III.

First term, three hours.

COURSE XI.—Chaucer. Middle English forms and syntax. The Canterbury Tales and minor poems.

Elective for all students who have completed Courses II. and III.

Second term, three hours.

Given in 1913-14.

COURSE XII.—Old and Middle English Poetry, not including Chaucer. The most important selections will be read, in translation when necessary. The literary history of the period will also be studied.

Elective for all students who have completed Courses II. and III.

Second term, three hours.

Given in 1912-13.

FRENCH LANGUAGE AND LITERATURE.

It is the aim of the courses in this subject to give to the student: (1) an accurate knowledge of the language of the present time both as written and spoken; (2) an appreciation of the more important masterpieces of the literature proportionate to the knowledge of the language; and (3) a knowledge of the historical development of the literature.

The work as above outlined is carried on by means of recitations, the writing of prose and essays, the hearing of lectures in French, and by collateral read-

ings. Much stress is laid from the beginning upon the ability of the student to express himself directly in the language. With this end in view the work of the class room is conducted in French and phonetic methods are employed in order to give accuracy of pronunciation.

COURSE I.—Elementary French. Fraser and Squair's Grammar is used as a reference book. Oral and written exercises. Dictation. Reading of such easy prose as Guerber's Contes; Halévy, L'Abbé Constantin; De La Brète, Mon Oncle et Mon Curé.

Throughout the year, four hours.

COURSE II.—Intermediate French. Reading of such authors as George Sand, Mérimée, Daudet, Augier, Dumas, etc. Memorizing of selected poems. In this course brief outlines of the history of literature are also given with collateral readings from celebrated authors.

Throughout the year, four hours.

COURSE III.—French Literature in the Seventeenth Century. A study of the drama and of the miscellaneous literature of the period. Corneille, Racine, Molière, La Fontaine, La Bruyère, Pascal, Bossuet, Fénelon, Mme. de Sévigné, Mme. de La Fayette.

Throughout the year, three hours.

Given in 1913-14.

COURSE IV.—French Literature in the Eighteenth Century. This course will treat of the time and influence of Voltaire, Montesquieu, Rousseau, the Encyclopedists, Beaumarchais, Lesage, Marivaux, André Chénier.

Throughout the year, three hours.

Given in 1912-13.

COURSE V.—French Literature in the Nineteenth Century. A study of the principal authors of this period. Chateaubriand, Lamartine, Victor Hugo, Alfred de Vigny, Alfred de

Musset, Théophile Gautier, Leconte de Lisle, Sainte-Beuve, Balzac, with a brief survey of contemporary writers.

Throughout the year, three hours.

Given in 1913-14.

COURSE VI.—French Literature before the Seventeenth Century. A study of the history of old French literature, which will include reading of extracts from the Chanson de Roland, etc. The writers of the latter part of this period will also be studied.

Throughout the year, three hours.

Given in 1912-13.

COURSE VII.—French Prose Composition.

Throughout the year, one hour.

GEOLOGY.

The courses in Geology are eminently general culture courses, explaining as they do so many common phenomena and leading the student to take a greater interest in natural objects. The class work is supplemented by practical work in the field, museum, and laboratory.

COURSE I.—Physiography of the Land and Elementary Meteorology. Laboratory work in the study of topographic and weather maps will be supplemented by several short excursions. Recitations three hours a week and laboratory two hours.

Second term, four hours.

COURSE II.—General Geology. First term.—Structural, physiographic, and dynamic geology with field trips and laboratory work on the common rock-forming minerals, the identification and classification of rocks and the study of topographic maps. Second term.—Historical geology. The evolution of earth structure as exemplified in North American geology with reference to the conditions on other continents. The laboratory work will consist of the study of folios and of fossils typical of each geologic period. Open to those who

have completed the freshman year. Students in Group IX. will be permitted to drop the course at the end of the first term. Recitations, two hours a week; laboratory work, two hours a week.

Throughout the year, three hours.

COURSE III.—Mineralogy. Crystallography, blow-pipe analysis, and determinative mineralogy. Recitations and laboratory work. Open to those who have completed a year in chemistry.

First term, three hours.

GERMAN LANGUAGE AND LITERATURE.

The methods employed in the first two years of this study are intended to establish a broad and thorough foundation for an appreciative study of German literature in the advanced courses. Accurate and intelligent pronunciation is insisted upon; and the principles of phonetics are represented in simple form and are put to practical use in the reading exercises in the class room. Translation from German into English is employed at the outset, but is discarded when it is no longer needed as a test of the understanding of the text. In prose composition more attention is given to reproductive exercises and theme-writing than to translations. The oral use of the German language in the class room will be constantly increased until the recitations are conducted entirely in German.

A German Conversation Club, in which a special opportunity for linguistic practice is afforded, has been founded among the students of the college. Membership is open to those who have studied German for one or more years.

COURSE I.—Elementary German. Spanhoofd's Lehrbuch der Deutschen Sprache; Huss' German Reader; Storm's Immensee; Baumbach's Im Zwielicht, and Heyse's Die Hochzeit auf Capri, and Wildenbruch's Neid. Oral exercises based on the Gouin Series and oral and written reproduction of portions of the texts read. The aim of this course is to enable the student to read and understand accurately, without translation, German prose of ordinary difficulty and to acquire some proficiency in writing and speaking German.

This course represents from five to six terms of ordinary high school work, but may not be taken to remove language requirements for admission to college.

Throughout the year, four hours.

COURSE II.—Intermediate German. First term.—Baumbach's Der Schwiegersohn; Meyer's Gustav Adolfs Page; Schiller's Balladen; William Tell; Elster's Zwischen den Schlachten; Lessing's Minna von Barnhelm; Goethe's Hermann und Dorothea; Eichendorff's Aus dem Leben eines Taugenichts; Freytag's Doktor Luther. One hour a week throughout the year will be devoted to prose composition, reproduction in German, and short themes in German.

Open to all students who have credit for Course I., or who present two years of German for admission to college.

Throughout the year, four hours.

COURSE III.—Introduction to Eighteenth Century Classics. Lessing, Goethe and Schiller. Two dramas of each are read in the order named and at least one work of each is critically analyzed. Monthly themes in German and a semestral essay in English. Collateral reading: Robertson's History of German Literature,—chapters on the above poets. Alternates with Course IV.

Throughout the year, two hours.

Given in 1912-13.

COURSE IV.—Introduction to Nineteenth Century Literature. Kleist, Heine, Grillparzer, Hebbel, Keller, Ludwig, Freytag. Rapid reading of one or more works of each. Short themes in German on the reading matter. Collateral reading:

Robertson's History of German Literature,—chapters on the authors read in class. Alternates with Course III.

Throughout the year, two hours.

Given in 1913-14.

COURSE V.—Outline History of German Literature. The aim of this course is to acquaint the student with the most important movements in the history of German literary life, from the earliest times to the twentieth century, special attention being paid to the two classic periods of the twelfth and eighteenth centuries. Lectures in German, reports and readings. Given in conjunction with Course IV.

Throughout the year, one hour.

Given in 1913-14.

COURSE VI.—German Conversation and Composition. The aim of this course is to train the student in colloquial German in speech and writing. Selections from modern authors are read to the class and reproduced from memory, and themes are written weekly on assigned subjects. The conversation in based on Kron's Daily Life and Vos' Materials for German Conversation. Given in conjunction with Course III.

Throughout the year, one hour.

Given in 1912-13.

COURSE VII.—Goethe's Life and Work. First Term. Reading of works illustrating different periods of Goethe's literary development, such as Götz von Berlichingen, Egmont, Torquato Tasso, and selections from Dichtung und Wahrheit. Collateral reading from Bielschowsky's Goethe.

Second Term. Goethe's Faust. Interpretation of the drama and discussion of its philosophic and ethical ideas.

In this course a considerable amount of collateral reading will be required.

Throughout the year, two hours.

Given in 1912-13.

COURSE VIII.—History of the German Language. A general survey of the historical development of the German language, with discussions of such linguistic problems as bear

relation to current usage. Text-books are: Behagel's Die Deutsche Sprache and Curme's Grammar of the German Language as spoken and written today. This course is especially intended for those preparing to teach German.

Throughout the year, one hour.

Given in 1913-14.

COURSE IX.—Middle High German. Study of the dialect in its relation to modern High German, and readings from Hartmann von Aue's Der arme Heinrich, das Niebelungenlied, and Walter von der Vogelweide's lyrics.

Throughout the year, one hour.

Given in 1912-13.

GRAPHICS.

The work in this department is based wholly on the needs of the civil engineer. It is thoroughly practical in its scope and methods. The courses are open only to the students of the Civil Engineering Group.

COURSE I.—Elementary Mechanical Drawing. This course includes the use and care of instruments, lettering and sketching, orthographic, isometric and cabinet projections and an introduction to the methods of descriptive geometry.

First term, four hours.

COURSE II.—Descriptive Geometry. The problems considered are those relating to the point, the line, the plane and the representation of surfaces. Instruction will be by lecture and the solution of problems. Attention will be paid to the concise statement of analyses.

Second term, four hours.

COURSE III.—Descriptive Geometry. The problems considered will be those relating to plane, curved and warped surfaces, the development of surfaces and the intersection of

surfaces and solids. The method of instruction employed in Course II. will be continued.

Second term, three hours.

COURSE IV.—Mechanical Drawing. This course includes plotting, lettering, tracing and the making of blue prints, detail and dimension drawing from sketches, models, and from other drawings with a different scale.

First term, three hours.

COURSE V.—Mechanical Drawing. This course includes the designing of simple engineering structures and making detail and dimension drawings on the same.

Second term, three hours.

COURSE VI.—Topographical Drawing. This course includes practice in drawing the different kinds of standard topographical signs used in mapping, and a topographical survey of an assigned territory with a map of the same.

Second term, three hours.

GREEK LANGUAGE AND LITERATURE.

The aim of the department is to lead the students to the acquisition of a living knowledge of the Greek language as an introduction to a practical acquaintance with Greek life and thought. It is believed that by careful and accurate work in the first years of the language the student can gain such knowledge as will enable him to read widely and independently. The courses laid down are such as are thought to be best adapted to that end. The work is varied, and an attempt is made to give a view of all departments of the literature. The department possesses a growing collection of casts of antique sculpture, painted vases and other antiquities, about a thousand photographs, and several hundred lantern slides.

Students entering College without Greek are given opportunity to prepare to enter Greek I. with a minimum loss of time.

GREEK A.—Elementary Greek. This is a course intended to prepare students to enter Greek I. after a year of careful work. The first term is devoted to some such book as Benner and Smyth's First Greek Book, the second term to selections from Xenophon and other Attic authors. Students of some maturity and reasonably well grounded in Latin will be prepared in one year to do the work in Greek I. with profit.

Throughout the year, five hours.

COURSE I.—Homer, The Iliad or the Odyssey. Detailed study of two or three books and rapid reading of as much more as the time allows. This rapid reading of the Homeric poems as literature is made the basis of the study of early Greek life and civilization.

Greek Composition.—Passages from classic authors are carefully read in class. A weekly exercise in composition is based on the Greek text read. The aim is to develop a vocabulary and an accurate knowledge of Greek syntax. Impromptu writing of Greek is emphasized.

Throughout the year, four hours.

COURSE II.—Lysias. Selected orations. A detailed study is made of the history of Athens in the Age of Pericles and of the Peloponnesian War as an introduction to this part of the work.

Plato.—The Apology and Crito and selections from the Phaedo. Outline of Greek philosophy.

Literature, text-book and lectures. Assigned readings on special topics in Greek history and literature. Reading at sight.

This course is made the basis of the study of historical Greek life and civilization.

Throughout the year, three hours.

COURSE III. A—Greek Drama. Detailed study of two plays and rapid reading of several others. Usually the following will be read: Aeschylus' Agamemnon, Sophocles' Oedipus Tyrannus, Euripides' Iphigeneia in Tauris and Aristophanes' The Frogs. Individual investigation of special topics. The course is made not only a study of the rise and development of the Greek Drama, but also a study in literary evolution.

Throughout the year, three hours.

GREEK III. B.—Greek Oratory. Andocides, Isocrates, Demosthenes. The history and politics and the public and private antiquities of the times. Lectures and assigned readings.

Throughout the year, three hours.

One of these courses is given each year. In 1911-12 A. was given. Open to all who have completed Course II.

COURSE IV. A.—Classical Archaeology. Egyptian, Babylonian, and Assyrian Art. Mycenaean Civilization. Greek Vase Painting. Greek Architecture.

Throughout the year, two hours.

Given in 1912-13.

COURSE IV. B.—Classical Archaeology. Greek Sculpture.

Throughout the year, two hours.

Given in 1913-14.

Courses IV. A. and IV. B. are given in alternate years. The instruction is mainly by lectures, but text-books are used and a large amount of collateral reading is required. The courses are open to those who have completed Course I., and under some limitation may be elected by students having no knowledge of Greek.

COURSE V.—Greek Testament. A minute and critical study of a portion of the New Testament to insure a familiar and accurate knowledge of vocabulary, syntax, and idioms, followed by more rapid reading to develop ease and rapidity in

grasping the thought of the original. The purpose of the course is to lay the foundation for exegetical work. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1912-13.

COURSE VI.—Greek Literature. A careful survey of the field from Homer to the Roman period. One hour a week is devoted to lectures and text-book work, one hour is given to critical readings in English translations, and two hours to readings in Greek. Open to all who have completed Course II.

Throughout the year, four hours.

Given in 1913-14.

COURSE VII.—Greek Literature in English. The course consists of the lectures, text-book work, and English readings of Course VI. It may be elected by students having no knowledge of Greek.

Throughout the year, two hours.

Given in 1913-14.

HEBREW.

COURSE I.—Davidson's Hebrew Grammar, completed. Twelve or more chapters in Genesis read.

Throughout the year, four hours.

This course is given in alternate years if called for.

HISTORY.

The aim of the department is to give that knowledge of the facts and philosophy of history which belongs to a liberal education. The subjects in periods and countries are planned also to train for university work or to equip for preparation to enter law or journalism. The evolution of European civilization from its sources and the growth and influence of Anglo-Saxon institutions are the general theme of the work. History is presented as a real educative

process. The department has the appropriate library authorities for the several courses, and source materials are freely used. Abstracts, maps, essays, and outlines are required in the class room. The method of instruction is a combination of lectures and textbook. Course I. is required for admission to the succeeding courses.

COURSE I.—European History. The period covered extends from the Teutonic migration to the French Revolution. The first term is occupied with mediaeval institutions and the transition to modern Europe. Robinson's European Readings and Bemont and Monod's Mediaeval Europe are the texts for class guidance. Required readings in standard authorities are assigned. The second term is devoted to the growth of nationalities and the religious and political struggles for balance of power. Lodge's Modern Europe furnishes the outline of the work.

Throughout the year, three hours.

COURSE II.—The Renaissance and the Reformation. The first term is devoted mainly to the Renaissance in Italy and subordinately in England. The political, intellectual, literary and aesthetic phases of the movement are studied. Burckhardt and Symonds are the authorities used, with Einstein for the English Renaissance. The second term is occupied with the Reformation from Wycliffe to the Peace of Westphalia. The texts are Häusser and Fisher. This course alternates with Course III.

Throughout the year, three hours.

Given in 1913-14.

COURSE III.—French Revolution and Nineteenth Century. The first term follows the causes and the course of the French Revolution and concludes with the Napoleonic Era. A lecture course with references to many authorities, Stephen's Revolutionary Europe and Rose's Napoleon being required.

The second term examines Europe in the Nineteenth Century after the Congress of Vienna, studying the formation

of the German and the Italian unity and the continental triumph of liberalism. Seignobos' Europe and Fyffe's Modern Europe are used as outlines of the work.

Throughout the year, three hours.

Given in 1912-13.

COURSE IV.—History of England. The work extends from the Teutonic origins to the Nineteenth Century. Lectures, collateral readings, and text-books. Gardiner's Student's History and Green's Short History of the English People furnish the outline; and references are required in the constitutional histories of Stubbs, Hallam, and Taswell-Langmead and in the works of Froude, Gardiner, and Lecky. This course alternates with Course V.

Throughout the year, two hours.

Given in 1912-13.

COURSE V.—The Political and Constitutional History of the United States, from 1781 to 1861. The sources are extensively used as found in the government publications, the writings and addresses of statesmen, and the contemporary interpretation of national affairs. Lectures, and reports by students on assigned readings in Schouler, Henry Adams, McMaster, Gordy, Rhodes and the American Nation Series. Monographs required of the class each term.

Throughout the year, two hours.

Given in 1913-14.

ITALIAN LANGUAGE AND LITERATURE.

COURSE I.—Elementary Italian. Italian Grammar, Grandgent. Oral and written exercises. Dictation. Texts such as De Amicis, Cuore; Goldoni, Il vero Amico; Manzoni, I Promessi Sposi.

Throughout the year, three hours.

Given in 1913-14.

COURSE II.—Literature in the Thirteenth and Fourteenth

Centuries. Dante, La Divina Commedia; Petrarca, Rime Scelte.

Throughout the year, two hours.

Given in 1911-12.

LATIN LANGUAGE AND LITERATURE.

The courses in the Latin department are intended to direct the student to a systematic study of the language and its development, to acquaint him through a varied reading of the best authors with the leading features of the literature, and to make him familiar with the main facts of Roman life and civilization. Technical grammar and composition are studied only in so far as they contribute to the comprehension of the language. The department is well equipped with books, maps, and facsimiles of inscriptions and has a good collection of photographs, lantern slides, and antiquities for illustrative purposes.

The instruction is given by means of recitations, supplemented by lectures and, in the elective courses, by individual work.

COURSE I.—Cicero, De Senectute or De Amicitia.

Livy, Books XXI-XXII, or selections from Books I-XXV.

Terence, one play, usually the Phormio.

Weekly exercises in prose composition.

This course includes a detailed review of Latin case structure and syntax, and a specific effort is made to teach right habits of reading and translation. In connection with Livy is made a careful study of the geography of Spain and Italy and of the history of Rome during the Second Punic War. Attention is also directed to the literary characteristics of Livy and of his age.

Throughout the year, four hours.

COURSE II.—Horace, selected Odes and Epodes.

The more common metrical structures are studied so that the Latin can be read with ease. Especial attention is directed to Horace's literary and political life and to as much of the history of the period as sheds light on the subject matter.

Readings from Latin Verse. Selections from representative Latin poets of all periods. One comedy is usually included.

Throughout the year, three hours.

COURSE III. A.—Tacitus, Annals, selections from Books I.-VI.

Suetonius, Lives. The Latin texts are used as a basis for a careful study of the character of Tiberius and the upbuilding of the principate. Collateral study on the history of the period.

Throughout the year, three hours.

B.—Martial, Selected Epigrams.

Quintilian, Institutions X. Lectures and discussions on Roman literary forms.

Throughout the year, three hours.

One of these courses alternates with Course IV. Open to all who have completed Course II.

Given in 1913-14.

COURSE IV.—Roman Private Life. Lectures and reports on Roman private life with readings mainly from the Letters of Pliny.

This course alternates with Course III. Open to all who have completed Course II.

Throughout the year, two hours.

Given in 1912-13.

COURSE V.—Roman Topography. Lectures and reports on topography, architecture, monuments, and history of Rome.

May be elected without previous preparation in Latin.

Throughout the year, two hours.

Given in 1913-14.

COURSE VI.—Advanced Latin Composition. Practice in writing prose with careful study of syntax and idiom. Individual work designed primarily for those who look forward to teaching or to graduate work. One hour class work and one private conference weekly.

Throughout the year, two hours.

Given in 1912-13.

NOTE.—For students entering college without complete preparation in Latin, instruction will be provided in such secondary Latin as may be required to satisfy entrance conditions.

MATHEMATICS.

The elementary courses in mathematics are: college algebra, plane and spherical trigonometry, analytic geometry including conic sections, and differential and integral calculus. These courses may be taken in the freshman and sophomore years. They mark the minimum attainments that a teacher of mathematics in a high school or an academy should possess.

COURSE I.—Algebra. This is a continuation of the Algebra required for entrance. Much attention is given to graphical representation of linear and quadratic equations, and the following topics are considered: mathematical induction and the binomial theorem for positive integral exponents, logarithms, undetermined coefficients, permutations and combinations, the theory of equations and an elementary treatment of determinants.

Trigonometry. The elements of trigonometry on the plane and on the sphere.

Throughout the year, three hours.

COURSE I. C.—Solid Geometry.

First term, three hours.

COURSE II.—Analytic Geometry and Calculus. An elementary treatment of the fundamentals of Analytic Geometry, of two and three dimensions, designed to equip the student for work in Calculus. This course includes a complete elementary course in Differential and Integral Calculus and while it satisfies the requirements in mathematics for B. S. students, it will be adapted to those who are fitting themselves to teach mathematics in secondary schools.

Throughout the year, four hours.

COURSE III.—Advanced Calculus. This course is a continuation of Course II. It should be taken by those who intend to pursue advanced work or are looking forward to work in applied mathematics.

First term, three hours.

COURSE IV.—Differential Equations. An elementary treatment of Differential Equations, with applications to Physics and Mechanics. This course is necessary to a well-rounded course in mathematics.

Second term, three hours.

COURSE V.—Projective Geometry. Lectures, supplemented by reading. Reference books: Reye, Geometrie der Lage; Scott, Modern Geometry; Cremona, Projective Geometry.

Higher Plane Curves. The general properties of curves, the resolution of singularities, and forms of curves of the third and fourth orders.

Throughout the year, three hours.

Given in 1913-14.

COURSE VI.—Functions of a Complex Variable. A general introduction to the theory of functions of a complex variable, following the methods of Weierstrass and Riemann.

Throughout the year, two hours.

Given in 1912-13.

PHILOSOPHY.

The aim of this department is to acquaint the stu-

dent with the chief philosophic theories of the past and present, to cultivate in him the habit of critical and independent thought, and to set forth a consistent and satisfactory method of dealing with the fundamental problems of speculation.

COURSE I.—Psychology. A general introduction to the subject. A text-book is used, which is supplemented by informal lectures, assigned readings, and papers on special topics.

First term, three hours.

COURSE II.—Ethics. A brief survey of the history of ethical thought is followed by an examination of the chief ethical systems of modern times, with a view of arriving at the really valid principles which underlie human conduct. These principles are then applied to the various institutions and natural relations of human life. A text-book is used, supplemented by informal lectures. Open to those who have taken Course I.

Second term, three hours.

COURSE III.—Logic. This course aims to give the student a thorough knowledge of the fundamental laws and forms of thought. The principles governing immediate and mediate reasoning will be explained and the leading types of Deduction and Induction will be studied. A text-book will be used, supplemented by lectures, and the student will be drilled in the different figures of the syllogism and in the detection of fallacies. Practical exercises will constitute a large part of the work demanded.

First term, three hours.

Given in 1913-14.

COURSE IV.—Metaphysics. This applies the conclusions reached in the preceding course to the questions relating to reality. Our chief metaphysical ideas are examined and an attempt is made to fix their meaning. These results are then applied to the construction of a consistent and valid theory

of the nature of the material world and of the human soul. Open to all who have taken Courses I. and III.

Second term, three hours.

Given in 1913-14.

COURSE V.—History of Philosophy. A study of the chief philosophers and philosophic systems of ancient and modern times. A text-book will be used. Open to all who are taking or have taken Course I.

First term, two hours.

Given in 1912-13.

COURSE VI.—Theism. The true basis of knowledge is inquired into, the traditional arguments for the existence of God are critically examined, and the attempt is made to show that the theistic conception of the world is a necessary postulate of reason and of human life as a whole. Open to all who have taken Courses I. and V.

Second term, two hours.

Given in 1912-13.

COURSE VII.—Philosophy of Religion. This will be chiefly a lecture and reference course in which much reading and independent work will be expected on the part of the student. It will be introduced by a discussion of the religious data of thought and knowledge, the relation between Metaphysics and Theology, the true nature of Religion and the trustworthiness of the Religious Consciousness. It will embrace the comparative study of the various Nature, Culture and Prophetic Religions, thus critically studying Religion in its historic phenomena. It will include a consideration of the Absolute Religion.

Open to those who have taken Courses I. and II., or III.

Second term, three hours.

PHYSICS.

This department comprises courses in theoretical and practical physics.

The aim of the instruction is to give the student a

thorough knowledge of the principles and laws that govern physical phenomena, and to acquaint him with the actual operations of these principles and laws. The work is presented to the student by lectures, with experimental demonstrations, combined with recitations, and the solution of problems. In the practical work, the student performs such experiments in the laboratory as will give him a practical knowledge of the principles and laws of physics.

The first courses are elementary and intended primarily for general culture. The remaining courses are designed for those more especially interested in science, those who expect to teach the subject, or those who are planning to pursue engineering.

COURSE I.—College Physics. Mechanics, Sound, Heat, Light, Magnetism, and Electricity. A general course in which the laws and phenomena of physics are carefully developed and illustrated. Lectures, experimental demonstrations, and recitations. All students in this course will meet three times a week. All may, and engineering students must, meet four times a week, the additional hour being devoted to problems and additional text work. Students in this course must schedule at least one hour of Course II. Plane Trigonometry prerequisite.

Throughout the year, three or four hours.

COURSE II.—Experimental Physics. Laboratory work to supplement Course I. The student is required to verify laws of Physics, to make measurements of physical quantities, and determine physical constants. Open to students who are pursuing or who have completed Course I.

Throughout the year, one to three hours.

COURSE III.—Elementary Analytic Mechanics, Statics, Kinematics, and Kinetics. Special attention is given to the

application of mechanics to engineering problems. Open to those who have completed Mathematics II. and Physics I.

Throughout the year, two hours.

COURSE IV.—Physical Measurements. A laboratory course involving the adjustment and use of instruments of precision. The significance and accuracy of results, together with the sources of errors and means of their elimination are carefully discussed. Open to students who have completed Course I. and two hours throughout the year of Course II.

First or second term, three hours or throughout the year, two to four hours.

COURSE V.—General Physics. A course in theoretical physics dealing principally with mechanics, heat, the properties of vapors and gases, the theory of solutions, the kinetic theory of gases, thermo-dynamics, magnetism and electricity. Students electing this course must schedule at least two hours of Course IV. Open to students who have completed Course I. and two hours throughout the year of Course II. and Mathematics II.

Throughout the year, two hours.

COURSE VI.—History of Physics. Open to students pursuing Courses I., III., or V.

Throughout the year, one hour.

OTHER COURSES. For students desiring to specialize in physics, courses dealing with any of the subjects treated under this department will be given as the work is demanded.

POLITICAL SCIENCE.

This department is open to those who have completed one year's work in History. Political theories and principles, ancient, mediaeval, and modern, are examined, as illustrated in the rise and fall of nations, and in the evolution of constitutions. In addition to the cultural worth of these investigations, it is the purpose to train for intelligent, responsible citizenship in the nation and community.

COURSE I.—Comparative Politics. This course is historical as well as comparative in method. It begins with a study of the state, its origin, development, forms, and aims, and an examination into the government of ancient Greece and Rome and of mediaeval times. Then follow a study of the development and a comparison of the present constitutions of England, France, and Germany. The work is based on Wilson's The State, Burgess' Political Science, and Goodnow's Comparative Constitutional Law.

First term, two hours.

COURSE II.—American Administration. This is a comprehensive study of national, local, and municipal government in the United States. Constitutional law is examined, the sources of the national constitution being traced and the development of its chief powers analyzed. The practical working of the administration in central and local control is then studied and particular attention given to the conditions and the rule of cities. The work is based on Cooley's Constitutional Law, Bryce's American Commonwealth, and Wilcox's American City.

Second term, two hours.

PUBLIC SPEAKING.

The courses in public speaking are designed to train the student in the composition and delivery of the various forms of public address. So far as possible, the work is adjusted to the particular needs of the individual student.

COURSE I.—Written analysis and interpretation of extracts from great orations. Extemporaneous speaking. This course aims to develop directness, earnestness, and dignity in public address. During the first term a careful study is made of the psychological principles which govern effective speaking. Sample speeches are studied and assigned passages are delivered by each student. During the second term

the same work is continued but more extemporaneous work is required.

Throughout the year, one hour.

COURSE II.—Argumentation and Debate. First Term. In this term the emphasis is laid upon theory. The principles of analysis, the rules of evidence, the elements of logic, and the kinds of fallacies are discussed. There is also brief-drawing leading up to written and oral debate. Second Term. The theory of the subject is concluded; the emphasis, however, is laid upon practice.

Elective for those who have completed English I.

Throughout the year, one hour.

COURSE III.—The Oration. First Term. A study of the non-forensic forms of public address, leading up to an examination of the general structure and the style of the oration. Illustrative selections. Outline-building. Written presentation of persuasive themes. One original oration. Second Term.—Study of great orators. Each member of the class is required to present a paper involving a comprehensive study and critical analysis of some great English or American orator.

Elective for those who have completed English II.

Throughout the year, one hour.

COURSE IV.—Practical platform work in the delivery of the colloquial, elevated, and impassioned styles of oratory. A systematic course in gesture. Lectures on the philosophy of expression with accompanying studies to be worked out by the pupil in platform presentation. A systematic study of voice culture is begun in this course. The "Natural Tone Drill" is the system used. A study of the principles underlying gesture work is also required.

Elective for those who have completed Course I.

First term, two hours.

COURSE V.—The study of voice culture is continued in this course in a more advanced and technical way. Dramatic readings from Shakspere and interpretative studies of the mas-

terpieces of literature will be given each student. Some extemporaneous platform work will also be required.

Elective for those who have completed Course IV.

Second term, two hours.

Special work for the individual pupil will be given in private lessons. A fee of ten dollars for each term hour will be charged.

SPANISH LANGUAGE AND LITERATURE.

COURSE I.—Elementary Spanish. Olmsted and Gordon's Spanish Grammar. Reading of such easy Spanish as Alarcón, El Capitán Veneno; Galdós, Dona Perfecta.

Throughout the year, three hours.

Given in 1912-13.

COURSE II.—A study of modern Spanish novels and dramas.

Throughout the year, two hours.

Given in 1913-14.

PHYSICAL TRAINING.

For Young Men.—The object of this department is to give the student growth and increase of strength; to provide health and symmetrical development. These objects are accomplished by regular class exercises in the gymnasium during the fall and winter, on the field in the spring, and by periods of optional work after class hours. Physical measurements and strength tests of all students are taken upon entrance and at the close of the college course and also at such other times as seem necessary. These form the basis of comparison of the students' conditions and needs, and determine the character and amount of exercise necessary to overcome marked deficiencies, irregular development, or such deformities as are amenable to physical exercise.

Students will receive personal advice in reference to habits of life, exercise, study, and recreation, as well as suggestions pertaining to personal hygiene.

Regular exercise, consisting of Swedish work, military gymnastics, Indian club, wand, and dumb-bell drills, principles of heavy gymnastics, is required of the men of the sophomore and freshman classes, three hours a week, from the middle of October to the middle of May. Elective work is offered the junior and senior classes.

For Young Women.—The aim of the work is to acquire a symmetrical development of the body as a basis for health and grace. The training is based on Delsarte Philosophy of Expression, and the Swedish and German systems of free movements and light gymnastics. All young women are required to take the prescribed work unless excused on recommendation of the instructor.

The general work includes Indian club and dumb-bell exercises, flexing exercises to overcome stiffness, exercises to develop control of the muscles, and all devices in training that secure freedom of bodily action.

The Gymnasium for Women is equipped with the most modern apparatus. Opportunity is offered to do individual work under the direction of the instructor in addition to the regular class exercises. In the basement of Hulings Hall there is a bowling alley for the exclusive use of young women.

REQUIRED WORK.

For graduation in any Group, all work specified as required must be completed, and additional subjects selected from the general list of electives sufficient to make a total of not less than one hundred twenty term hours. "Term hour" signifies one hour recitation weekly for one term of eighteen weeks. The prescribed work in physical training must also be completed. In the senior year a thesis and an oration are required. But in the Groups leading to the B. S. degree two theses or a thesis and an oration may be presented.

Sixteen recitations weekly is the regular number, but the Registrar may assign seventeen. No student may take more than seventeen or less than twelve hours' work without the approval of the Registration Committee. In no case will additional hours be allowed except on the basis of previous high grade work.

List of Electives.

The following list of elective studies includes all subjects that are elective in any of the Groups. Some of the subjects are required in one or more of the Groups, but are elective in others. The list is open to all students under the conditions named below.

1. The student must be fully prepared for the work.

2. He must avoid all conflicts in hours.

3. So far as possible all required work below his rank and Group Electives must be completed before advanced electives are chosen. This rule may be waived in cases where it is necessary in order that the student may be ready for a particular line of work in the latter part of his course.

4. A study once elected must be pursued to the end of the year or to the completion of the subject No credit for graduation will be given for partial courses unless by arrangement made with the instructor and the Registrar before the study is begun.

5. The student's choice of elective work must exhibit a definite and coherent plan.

6. The faculty reserves the right to disapprove choice of electives.

The Arabic numerals refer to the number of hour recitations weekly; the Roman numerals refer to the detailed description of the course of instruction found on pages 46 to 84.

	First Term	Second Term
Astronomy I.	3	..
Astronomy II.	..	2
Astronomy III.	..	3

	First Term	Second Term
Astronomy IV.	..	2
Astronomy V.	4	4
Biology I.	4	4
Biology II.	1	1
Biology III.	..	4
Biology IV.	3	3
Biology V.	4	..
Biology VI.	..	4
Biology VII.	4	..
Biology VIII.	3	3
Biology IX.	3	..
Biology X.	..	3
Chemistry I.	4	4
Chemistry II.	3	3
Chemistry III.	4	4
Chemistry IV.	4	4
Chemistry V.	3	3
Chemistry VI.	3	3
Chemistry VII.	3	3
Chemistry VIII.	4	4
Chemistry IX.	3	3
Chemistry X.	2	2
Economics I., II.	2	2
Economics III., IV.	2	2
Engineering II.	..	3
English III.	..	3
English IV.	3	3
English V.	3	3
English VI., VII.	2	2
English VIII.	2	..
English IX.	..	2
English X.	3	3
English XI.	..	3
English XII.	..	3
English Bible II.	2	2
English Bible III.	3	3
French I.	4	4
French II.	4	4
French III.	3	3

	First Term	Second Term
French IV.	3	3
French V.	3	3
French VI.	3	3
French VII.	1	1
Geology I.	..	4
Geology II.	3	3
Geology III.	3	..
German I.	4	4
German II.	4	4
German III.	2	2
German IV.	2	2
German V.	1	1
German VI.	1	1
German VII.	2	2
German VIII.	1	1
German IX.	1	1
Greek I.	4	4
Greek II.	3	3
Greek III.	3	3
Greek IV.	2	2
Greek V.	2	2
Greek VI.	4	4
Greek VII.	2	2
Hebrew	4	4
History I.	3	3
History II.	3	3
History III.	3	3
History IV.	2	2
History V.	2	2
Italian I.	3	3
Italian II.	2	2
Latin I.	4	4
Latin II.	3	3
Latin III.	3	3
Latin IV.	2	2
Latin V.	2	2
Latin VI.	2	2
Mathematics I.	3	3
Mathematics II.	4	4

	First Term	Second Term
Mathematics III.	3	..
Mathematics IV.	..	3
Mathematics V.	3	3
Mathematics VI.	2	2
Philosophy I., II.	3	3
Philosophy III., IV.	3	3
Philosophy V., VI.	2	2
Philosophy VII.	..	3
Physics I.	4	4
Physics II.	3	3
Physics III.	2	2
Physics IV.	3	3
Physics V.	2	2
Physics VI.	1	1
Political Science I., II.	2	2
Public Speaking II.	1	1
Public Speaking III.	1	1
Public Speaking IV., V.	2	2
Spanish I.	3	3
Spanish II.	2	2

GENERAL INFORMATION.

COLLEGE FEES.

All students pay a fee of $75 a year, one half payable at the opening of each term. This includes incidental, library, and gymnasium fees.

Students in the Civil Engineering Group and those who elect any of the technical subjects of that course pay an additional fee of $5.00 a term.

In the laboratories the following fees are charged each term:

Astronomy II., V. (Per term hour)	$ 2.00
Biology I.	2.00
Biology III.	3.00
Biology IV.	4.00
Biology V. and VI.	5.00
Biology VII.	3.00
Biology VIII.	4.00
Biology IX. and X.	7.50
Chemistry I.	4.00
Chemistry II., III., IV., VI., VII., VIII., XI.	7.50
Chemistry IX.	5.00
Geology I., II.	2.00
Geology III.	4.00
Physics II. (Per term hour)	2.00
Physics IV. (Per term hour)	2.50

In addition breakage of material furnished is charged at actual cost.

All college fees are due on the day of registration.

No student is admitted to class until all fees are paid or satisfactorily arranged for.

LIVING EXPENSES FOR YOUNG MEN.

The young men of the College board in Cochran Hall, in fraternity chapter houses, or in private families. The cost of board in Cochran Hall is $110.00 a year. The cost in chapter houses and private families is, as a rule, ten to twenty-five per cent. more. One half the room rent in Cochran Hall is due and payable at the opening of the first term and one half at the opening of the second term. A deposit fee of ten dollars is required when the room is reserved. This fee will be deducted from the second half year's payment. The rate for rooms varies from forty to sixty dollars a year for each student. All rooms except those occupied by seniors are to be surrendered not later than noon on Monday of Commencement Week. The amount for board in Cochran Hall is due as follows: $30.00 at the opening of the year; $30.00 on the second Monday in November; $30.00 at the opening of the second term; $20.00 on the third Monday in April. If the student has a room-mate, the necessary expenses for a year will fall within the following estimates:

	Low.	Liberal.
Term fee	$ 75.00	$ 75.00
Room rent, fuel, light	30.00	50.00
Table board	110.00	125.00
Books	10.00	20.00
Total	$225.00	$270.00

To be added to these figures are the laboratory fees, if the student pursues studies in which such charges are made. Students in the Civil Engineering Group pay an additional fee of $10 a year. The cost of books

will vary greatly from term to term, but a fair average will fall within the limits given.

Expenses other than those enumerated depend largely upon the student's tastes and habits, and the College does not undertake to estimate them. For the items mentioned the figures given are exact. Few students will have occasion for spending more than $300 a year. This, of course, does not include traveling expenses, clothing, or luxuries. An economical student can live on $250 a year; indeed not a few students spend less than this and yet live comfortably.

A circular detailing the expense of living in Cochran Hall will be sent on request.

YOUNG WOMEN.

Allegheny College is a co-educational institution. It endeavors to give young women the highest educational advantages open to young men. Instruction is given in the same subjects and by the same professors, and young women have access to all departments of the College, and are eligible to all honors. For students desiring to combine music with college work, opportunity for excellent instruction is afforded in the Pennsylvania College of Music.

Hulings Hall. Young women not living at home or with relatives are required to live in Hulings Hall. The constant aim is to furnish here an ideal college home for young women, where they shall be surrounded with influences which promote true and cultured womanhood. The Hall is under the charge of the Dean of Women, whose influence, with that of her competent assistants, is constantly felt in the social,

moral, and religious development of the young women under her care.

For the proper maintenance of the Hall as a college home for young women certain specific rules are essential, but it is the policy of the College to make only such regulations as will best protect the interest of those who reside there. As large a measure of self-government as possible is accorded and the young women of the upper classes assume a certain amount of responsibility for the management of the Hall. All proper freedom is allowed, but applicants for admission are reminded that the purpose of residence in Hulings Hall is not primarily social but educational, and the authorities in charge reserve the right to determine what best promotes the educational welfare of the residents in the Hall. A copy of the regulations for the government of the Hall will be sent on request.

The rooms are furnished with single beds, mattresses, pillows, chairs, and tables. Each resident supplies the following articles: sheets, pillow-cases, bed covering, towels, and napkins.

The rates by the year, including board, room, heat and light, are $200.00 for each student. The rooms are all double, so that two students occupy each room. In case a student desires to room alone, there is an additional charge of $50.00. Bills are payable in four installments as follows: $60.00 the opening of the year, $50.00 the second Monday in November. $50.00 the opening of the second term, and $40.00 the third Monday in April. A deposit fee of $10.00 is required when a room is reserved. This fee is credited on the last payment of the year.

AID TO STUDENTS.

Self-Help.—Young men help themselves in several ways. A considerable number of the present students are earning their expenses in whole or in part. Some are employed in light work connected with the College or the boarding clubs. Some find in town opportunities for work of various kinds. A few are serving churches in the neighborhood of Meadville. It is the policy of the College to help students that help themselves.

The Lindley Endowment.—By the will of the late Miss Lucy Lindley, of Meadville, the College received the sum of ten thousand dollars, the interest of which is used to assist students dependent upon their own efforts to obtain an education. Application for aid from this fund should be made to the President. It should be remembered, however, that only a limited number of students can be aided in this way.

The Ballantyne Scholarship Fund.—In 1904 Mrs Hettie F. Ballantyne, of Pittsburgh, gave to the College thirty thousand dollars in memory of her husband, James Alexander Ballantyne; the fund is to be known as the James Alexander Ballantyne Scholarship Fund. The income is used to pay the college term fees, and in cases of need, certain other expense, of the sons and daughters of ministers of the Pittsburgh Conference, and of young men from the territory of that conference who are studying for the ministry. This fund is administered by the officers of the College Faculty on recommendation of a committee of the Pittsburgh Conference.

High School Scholarships.—The Board of Trustees

has established forty prize scholarships of fifty dollars each, to be awarded each year to honor students in forty of the best high schools in the patronizing territory of the college. In case the graduating class numbers ten or less, the scholarship must go to the one having maintained the highest scholastic rank during his high school course. If the class numbers more than ten, and less than twenty-five, it may go to the first or second in rank, and if there are over twenty-five in the class the scholarship may go to any one of the highest three. The amount of the scholarship is to be applied on the fees of the freshman year.

Educational Society Loans.—Students who are members of the Methodist Church, showing promise of usefulness in any form of Christian activity, may secure loans from the Educational Society. These loans are without interest and need not be paid in full until five years after graduation. These loans are offered not only to candidates for the ministry, but also to all needy and worthy students who show promise of useful service in lines of Christian activity and are endorsed by the home Quarterly Conference. The loans are made by the Society on the recommendation of the Faculty.

No aid from the above mentioned funds, or from any other source, is given to students who use tobacco.

A student having received aid from any of the College funds will be given a letter of dismissal to enter another college only after all such aid shall have been returned.

RELIGIOUS CULTURE.

The College was founded by Christian men for the promotion of Christian culture. It believes that education should always include, as its highest aim, the development of Christian character. It seeks to make the moral and religious life of the college community such that the student will be under as helpful influences as he would be in his own Christian home.

Chapel services are held each morning and all students are required to be present. Regular attendance on Sunday mornings at some church, selected by the student, or his parents, is also advised. Prayer meetings are held Wednesday evening of each week. The results are manifest in the quickening and strengthening of many in the religious life.

The Young Men's Christian Association and the Young Women's Christian Association are active and efficient organizations. Bible study classes and a mission study class are largely attended.

The religious influence of the College is not in any sense sectarian, but Christian. On the rolls this year are representatives from fifteen Christian denominations.

THE ADVISER SYSTEM.

Each student on entering is assigned to some member of the faculty, who serves throughout the freshman year as a special counsellor on all matters in which the student finds the need of frank and friendly advice. The relation between adviser and student is intended to be perfectly fraternal, without restraint on either side. At the beginning of the sophomore year the professor under whom the student does his

major work becomes his adviser for the remainder of his course.

CLUBS.

The Classical Club, composed of the instructors in the classical departments and about twenty-five advanced students, meets for the review of new books and current literature, and for the reading and free discussion of papers submitted by members on lines of classical investigation.

The Quill Club represents the journalistic and literary interests of the College. Its aim is to encourage press correspondents, to co-operate intelligently with the editors of the college publications, and to foster original and creative literary effort. It meets monthly. The membership is limited to thirty.

The Scientific Club meets fortnightly to discuss abstracts of current scientific papers or to listen to the presentation of original research of some of the members. The Club includes members of the faculty and students in the College who are interested in scientific work.

The German Club is an organization for students under the leadership of the professor of German that meets fortnightly for the purpose of arousing and sustaining interest in the German language as a vehicle of oral expression and of studying German life, institutions, and politics. Membership is open to all students who have had one or more years of regular class-room work in German.

The Society of Applied Science meets fortnightly

for the discussion of current scientific literature and for the discussion of original papers submitted by the members on the application of science to the practical affairs of life. All students in the scientific and Civil Engineering courses are eligible to membership.

The Forum is a society organized on the plan of a national deliberative body. At its weekly meetings various public and college problems are discussed, and parliamentary drill is afforded. Its membership consists of students who are especially interested in debate, under the guidance of representatives of the departments of English and Public Speaking.

Le Petit Salon meets fortnightly for the purpose of French conversation and study of French art, literature, etc. Its alternate sessions are in conjunction with the Meadville branch of the Alliance Francaise, an international organization. The membership is limited to thirty and includes the instructors and advanced students in French.

The Modern Problems Club, under the head of the History Department, meets monthly for the discussion of current, social, economic and political problems. This club, which is a branch of the Intercollegiate Civic League, is limited to juniors and seniors.

PRIZES.

In addition to essay and oration prizes offered by the literary societies, three prizes are open to competition by students of the college classes.

The Wakefield Oration Prize.—Mr. James A. Wakefield, of Pittsburgh, furnishes a prize of fifty

dollars in the name of his grandfather, the Rev. Samuel Wakefield, D.D., awarded in February of each year, to the young man delivering the best oration. The winner of this prize represents the College in the Tri-State Oratorical Contest held in May.

Heckel Prizes in Science.—Two prizes, a first prize of thirty-five dollars and a second prize of fifteen dollars, are given each year by Dr. Edward B. Heckel, of Pittsburgh. These prizes are awarded for the best two theses written by graduate or undergraduate students upon scientific subjects. The theses are presented on the first day of May and the prizes awarded the following Commencement Day.

ATHLETICS.

Outdoor exercise and athletic sports under the direction of competent supervisors are fostered as helpful in complete physical training, but are made consistently secondary to scholastic work. No student may take part in athletic events without the consent of the physical director after a physical examination. The athletic interests of the College are in the hands of the Athletic Association, to which all members of the College are eligible, and the business is managed and all funds administered by an Athletic Advisory Board, composed of four members of the faculty and five students. All details of athletic contests must receive the sanction of the Athletic Board, and every precaution is taken to insure clean athletics. Players must be bona fide students taking not less than twelve hours work, must have been registered at the opening of the year in which they compete, may not have more than one condition in any preceding work or be delin-

quent in the current term's work, and may not receive remuneration, directly or indirectly, for their services. The College is a member of the National Collegiate Athletic Association and conforms to the minimum eligibility requirements of that organization. Competent coaches are provided.

DEGREES.

The degree of Bachelor of Arts in Classical Languages is conferred upon those who complete in a satisfactory manner Group I. or II. The degree of Bachelor of Arts in Modern Languages is conferred upon those who complete in a satisfactory manner Group III. or IV. The degree of Bachelor of Science is conferred upon those who complete in a satisfactory manner Group V., VI., VII., VIII., or IX.

Bachelors of Arts of this College, or of another of equal rank, may pursue, in residence, work in not more than two distinct lines of study; and on the completion of a full year's work, including a satisfactory thesis, receive the degree of Master of Arts.

The degree of Master of Science is conferred on Bachelors of Science who have completed the work of Groups V., VI., VII., or VIII. on the same conditions as the degree of Master of Arts is conferred upon Bachelors of Arts.

Every person receiving a degree from the College pays a diploma fee of five dollars.

REGISTER OF STUDENTS.

GRADUATE STUDENTS.

Ballinger, T. Dudley .....Meadville
A. B., Allegheny College, 1911—Biology.

Beebe, Margaret Hyde .....Meadville
A. B., Allegheny College, 1910—Greek.

Kulp, Walter L. .....W. Middlesex
A. B., Allegheny College, 1911—Chemistry, Biology.

Mickle, Friend Lee .....Middletown, Conn.
A. B., Allegheny College, 1911—Biology, Chemistry.

Rowley, Edith .....Meadville
A. B., Allegheny College, 1905—Greek.

Swanson, Arthur André .....Lakewood, N. Y.
B. S., Allegheny College, 1911—Chemistry.

SENIORS.

Allgier, George John .....Glen Hazel
Amon, Frank Owen .....Greenville
Anderson, Wilhelmina Maria .....Titusville
Angus, Lyman Beecher .....Johnstown
Baum, Chester Allan .....Franklin
Bodenhorn, Oscar Henry .....New Bethlehem
Bollman, Nellie May .....Irwin
Braymer, Berdeen .....Meadville
Callahan, Frank Howard .....Johnstown
Dalzell, William Frederick .....Moundsville, W. Va.
Davis, Lynn Merl .....North Girard
Davison, Glenn Huston .....Diamond
Deane, Barbara Leavenworth .....Bridgeport, Conn.
Doane, Arthur Walter .....Meadville
Donlin, Florence Beatrice .....Meadville
Dorworth, Ruth Elizabeth .....Oil City

Geiss, Lida Alma ..... Wilmerding
Gibbons, Augusta ..... Sharon
Grant, Weldon Roy ..... Meadville
Hamman, Howard Harrison ..... Greensburg
Herpel, Fred Karl ..... Reynoldsville
Hughes, Thomas ..... Wheeling, W. Va.
Hunt, Harrison Randall ..... Meadville
Jordan, Louise Torrence ..... Orangeville, O.
Lauffer, Caroline ..... Harrison City
Lavely, Horace Thomas ..... Meadville
Leitzel, Henry Samuel Howard ..... Braddock
Ling, Elizabeth Pauline ..... Meadville
Litten, Ross Burns ..... Pittsburgh
Lore, Charles Lawrence ..... Vandergrift
McClellan, John Price ..... Irwin
McClure, Alfred Rose ..... Sandy Lake
McClure, Cecilia Elizabeth ..... Titusville
McElwain, Florence Grace ..... Sheakleyville
Maxwell, Willard Finley ..... Oil City
Megirt, Margaret Ellen ..... Union City
More, Carl Newton ..... Batavia, Ill.
Nichols, Sumner Ely ..... Girard
Nodine, Arthur Carlton ..... Titusville
Osthaus, Ned ..... Scranton
Patterson, Mary Jane ..... Homestead
Peck, Annie Helene ..... Bellevue
Piersol, Robert James ..... Bentleyville
Prenatt, Grace Mary ..... Meadville
Reed, Mildred May ..... Crafton
Remler, Anna Adelaide ..... Meadville
Ruettgers, Arthur ..... Brooklyn, N. Y.
Salmon, Ethel ..... Westport, Conn.
Sheffer, William Elias ..... Lamartine
Shelmadine, Marguerite Black ..... Pleasantville
Shires, Cecilia Forney ..... Mansfield, O.
Shires, Florence Junebell ..... Mansfield, O.
Smith, Charles Stanley ..... Meadville
Sowash, Mary Stuart ..... Irwin
Stewart, John A. Mueller ..... Beaver
Thomas, Robert Weller ..... Conneaut, O.

Thompson, Donald Chester .....Meadville
Vogel, Charles Ellsworth .....Jeanette
West, Margaret Ellen .....Jamestown, N. Y.
Wheeling, Katherine Eleanor .....Oil City
White, Elma .....Meadville

Seniors, 61.

JUNIORS.

Abbott, Wesley Ernest ..... Sugar Grove
Baldwin, Ruth Frances ..... Chautauqua, N. Y.
Ball, Ben Harrison ..... North Girard
Bayard, Ethel ..... McKeesport
Beatty, Maude Irene ..... Oil City
Bishop, Annie Gray ..... Versailles
Blasdell, David Joslin ..... Dayton, N. Y.
Blucher, Joseph Cooper ..... New Castle
Borland, Carl Allan ..... Erie
Calvin, Claudius Virgil ..... Meadville
Cousins, Esther ..... Hadley
Daniels, Edward Perry ..... Yarmouth, Me.
DeLand Edith May ..... Sheridan, N. Y.
Denison, Howard Harrison ..... Linesville
Dickey, Emma ..... Hartstown
Doane, Norman David ..... Meadville
Dotterrer, William D. ..... Muzette
Dunsmore, Archie Nevada ..... Ford City
Dutton, Helen Maria ..... Meadville
Eckels, Claude Alan ..... Kane
Else, James Gibson ..... Youngstown, O.
English, Earl Thompson ..... Saegertown
Fisher, Marie Abrilla ..... Sharon
Fitzgerald, Thomas Raymond ..... Mt. Pleasant
Foster, Vera Lillian ..... Butler
Fugate, Victor Weston ..... DuBois
Galbraith, Wilbur Floyd ..... Coal Center
Gordon, Harold Jackson ..... Cambridge Springs
Grauel, Beulah Marie ..... Aspinwall
Griswold. Florence Minerva ..... Warren
Haine, William ..... North Bloomfield, O.
Hall, Ernest Jackson ..... Russell
Harper, Helen ..... Youngstown, O.
Hasely, Charles Clark ..... New Castle
Hawk, Louis Leberman ..... Meadville
Hinckley, Cordon Earle ..... Johnsonburg
Hutchinson, Clara Romaine ..... Warren
Kelsay, Agnes Ruth ..... Meadville
Kightlinger, Karl Ridle ..... Meadville

Kline, Paul Vorse ..... Oil City
Kramer, Edmund Rudolph ..... Meadville
Lockwood, Jane Bertha ..... Clarendon
Lord, Elizabeth Daggett ..... Vineyard Haven, Mass.
McDonald, Fawn ..... Union City
McKay, Evans ..... Meadville
McKinney, Eva Emily ..... Corry
McLean, Owen Caldwell ..... Sharon
Mates, James Wilson ..... Butler
Maynard, Foresta Hazel ..... Elgin
Meeker, Nellie Asenath ..... Westport, Conn.
Miller, Charles Spurgeon ..... Wilkinsburg
Nevins, Clyde Louis ..... Braddock
Norton, Frances ..... Sherman, N. Y.
Olson, Ellen Hazel ..... Titusville
Perley, Seth Todd ..... Erie
Peterson, LeRoy ..... Kane
Poux, Marie Cecelia ..... Meadville
Rea, Alfred Alonzo ..... Linesville
Rosenberger, Andrew ..... Meadville
Sansom, Dorothy ..... Clarion
Smith, Lottie Vildena ..... Guys Mills
Sparling, Clyde Vincent ..... Irwin
Storer, Happer Beacom ..... New Sheffield
Strickland, Laura Frances ..... Cattaraugus, N. Y.
Thomas, Marian Ward ..... Silver Creek, N. Y.
Thomas, Ruth Miriam ..... Meadville
Tordella, Joseph ..... Meadville
Townsend, Stewart Strickler ..... Perryopolis
Van Horn, John Dick ..... Scottdale
Wells, William Hugh ..... Wellsville, O.
Whitney, Ernest ..... West Springfield
Wieler, Harry Julius ..... Wheeling, W. Va.
Wilkinson, Abram ..... Meadville
Williams, Elsie Beth ..... Meadville
Williams, Rose Green ..... Girard
Winn, Charles Burton ..... Basking Ridge, N. J.
Yost, Edna A. ..... South Fork

Juniors, 77.

SOPHOMORES.

Barackman, Paul Freeman ..... Meadville
Bardall, Mary Elizabeth ..... Moundsville, W. Va.
Barnes, Faye Elizabeth ..... Toledo, O.
Beck, Perry Alvin ..... East Sandy
Beisel, Ben Raymond ..... Pittsburgh
Boyer, Kile ..... Evans City
Breckenridge, Banks Bon ..... Meadville
Browning, Mabel Ruth ..... Scottdale
Burwell, Charles Sidney ..... Meadville
Cares, Charles William ..... Meadville
Carr, Clarence James ..... Meadville
Carroll, Marion Agnes ..... Kane
Coon, William Edwin ..... Albion
Croasmun, Max Neale ..... Redclyffe
Davis, Clara Rosannah ..... Union City
Delp, August ..... Meadville
Dodd, Ruth ..... Zanesville, O.
Dotterrer, Charles Milton ..... Muzette
Edmonds, Audley Rexford ..... Bruin
Elbel, Louis Edward ..... Punxsutawney
Fegely, Walter Hanchett ..... North Girard
Fisher, Stella Adda ..... Ellwood City
Freer, Nellie Elizabeth ..... Galion, O.
Girsham, Ellen May ..... Yenangyoung, Burma.
Graham, James Hebron, Jr., ... Meadville
Hammond, Gertrude Lenore ..... Reynoldsville
Harper, Edgar Robert ..... Meadville
Hastings, Josephine ..... Allegheny
Hayes, Wesley Glenn ..... Edinboro
Henry, Willard Lawrence ..... Linden, N. J.
Hofelt, William Rufus ..... McKeesport
Holt, Hetty Linda ..... Brockwayville
Hotson, Mary Helen ..... Meadville
Hunt, Sara Althea ..... Meadville
Jeffery, Morey Potts ..... Meadville
Johnston, Paul William ..... Greenville
Kahle, Richard Benton ..... Buffalo, N. Y.
Kellogg, Hazel Gay ..... Titusville

Lane, James Garfield ..... Meadville
Lane, Winfield Scott ..... Mt. Pleasant
Lindberg, Paul L. ..... West Homestead
Longfellow, Newton ..... Minneapolis, Minn.
MacGowan, James Reese ..... Smethport
McKay, Eleanor ..... Meadville
Marvin, Isabelle Edith ..... Meadville
Maxwell, Glenn Stanley ..... Meadville
Mayer, Donald Regis ..... Meadville
Mechlin, Fred Joseph ..... Grove City
Miller, Carl Cummings ..... Mt. Pleasant
Miller, James Martin ..... Pittsburgh
Miller, Lawrence Theodore ..... Meadville
Moorhead, Marion Adrian ..... Beaver
Mosier, Rodney Dean ..... Hayfield
Mueller, Gertrude Anna ..... South Bend, Ind.
Nicholls, Jonter Arthur ..... Sharon
Parmenter, Ottie Albert ..... Erie
Parsons, Willard Deichman ..... Saegertown
Pierson, John Clarence ..... Meadville
Ramirez, Pedro Ortiz ..... Manuabo, Porto Rico
Ramsey, Harry Floyd ..... Renfrew
Ramsey, Nathan LeRoy ..... Renfrew
Rea, Caroline Lois ..... Linesville
Reed, Gertrude ..... Sandy Lake
Reed, Jessie Stoner ..... Scottdale
Richard, Frank Alvin ..... Turtle Creek
Ricker, Ruth Mildred ..... Meadville
Robinson, Jennette Goldstrohm ..... Boston
Robinson, Paul ..... Robinson
Scott, Florence Marie ..... Meadville
Seitz, Margaret ..... Hamilton
Shryock, Gertrude Miriam ..... Meadville
Smith, Rachel Eleanor ..... Meadville
Spohr, J. Arthur ..... Meadville
Sweetland, Clair ..... South Dayton, N. Y.
Thoburn, Isabella ..... Meadville
Thoburn, Theodore ..... Meadville
Thoburn, Thomas Wilson ..... Meadville
Thomas, Mary Helen ..... Meadville

Thomas, Paul Eugene ..... Meadville
Thompson, Ada Belle ..... Cochranton
Tiffany, Jessie Marion ..... Meadville
Walker, Charles Roland ..... Bruin
Waring, Marie ..... Mansfield, O.
Weidle, Everett Steele ..... Erie
Weissenborn, Thelma Ora ..... Jersey City, N. J.
Whiting, William Alonzo ..... Conneautville
Whittaker, Cosette ..... Cochranton
Wilkins, Bernice ..... Union City
Zelwis, Albert ..... Pittsburgh

Sophomores, 89.

FRESHMEN.

Abrams, Dorothea Blanche ..... Jamestown, N. Y.
Allmendinger, Raymond Burgett ..... Russell
Allshouse, Charles Vance ..... Creighton
Askey, Edith F. ..... Oil City
Bacon, Ethel Katherine ..... Meadville
Baker, Cecil Boyer ..... New Wilmington
Baker, Charles Frank ..... Meadville
Baker, Mabel Mildred ..... Clymer, N. Y.
Baker, Vinnie Irene ..... Meadville
Barkley, Mary Josephine ..... Braceville, O.
Barnhart, Frances ..... Scottdale
Barns, Robert Howard ..... Albion
Boyd, Ethel Sarah ..... Meadville
Boyd, Howard ..... Meadville
Bright, John ..... New Castle
Brooks, Frank Garey ..... Rochester
Brooks, Harold King ..... Mill Run
Brownell, Howard Fred ..... Smethport
Chapin, Viva Waive ..... Union City
Cohen, Isadore ..... Sharon
Crawford, Robert ..... Cooperstown
Dashiell, Dorothy ..... Washington, D. C.
Davenport, Irene Bessie ..... Meadville
Deemer, Frank John ..... Lisbon, O.
Depp, Walter Mark ..... Punxsutawney
Deutsch, Carl Wilbur ..... Meadville
Doane, Ethel ..... Meadville
Domer, Vashti Lucile ..... Cuyahoga Falls, O.
Doran, Edwin ..... Pittsburgh
Dotterrer, Melvin Allen ..... Kellettville
Downing, Robert Harold ..... Meadville
Duffy, Hazel Marie ..... Corry
Dunbar, Donald George ..... Meadville
Dunbar, Douglas Manson ..... Meadville
Ebaugh, Esta Bernice ..... Bellevue
Ellis, Janet Adelia ..... Oil City
Erb, Clarence McKinley ..... Massillon, O.
Fabian, Frederick William ..... Diamond

Fahr, Herman Henry ..... Meadville
Flick, Charles Willis ..... Tionesta
Fowler, Katharine Roe ..... Meadville
Fox, Ralph ..... Kingsville, O.
Gealy, Ethel May ..... Oil City
Gilbert, Carl A. ..... Scottdale
Gilbert, Earl Brooks ..... Scottdale
Gillespie, Mae ..... Meadville
Gleason, Don Thomas ..... Linesville
Godsave, William Albert ..... Meadville
Gornall, Oliver ..... Saegertown
Gould, Louise ..... West Springfield
Graham, Orson James ..... Oil City
Grant, Harry Vane ..... Meadville
Greene, Randall Wyman ..... Meadville
Hanks, William P. ..... Meadville
Hartman, Hartley John ..... Pittsburgh
Heath, Clyde Hartson ..... Corry
Henton, Fay ..... Spartansburg
Henton, Fern ..... Spartansburg
Hill, Theodore C. ..... North East
Hines, Raymond Henry ..... Meadville
Howell, Marie Julia ..... Westfield, N. Y.
Jacobs, Homer R. ..... Emlenton
Johnston, Linda Beatrice ..... Meadville
Kemp, Alexander Hershman ..... Ingram
Kendall, Ralph Newton ..... Conneautville
Koehler, Robert Philip ..... Reynoldsville
Lavely, Ruth Elizabeth ..... Meadville
Leiphart, George Bardeen ..... Springboro
Lewis, Iva Belle ..... W. Elizabeth
Lippitt, Margaret Lucile ..... Meadville
Long, Wendell Partridge ..... Naples, N. Y.
Lord, Maurice M. ..... Meadville
McKinley, David ..... Jamestown
McKinney, Arlene ..... Philadelphia
McKinney, Velma Frances ..... Philadelphia
McLean, Margaret ..... Meadville
McWhorter, Lewis Edwin ..... Charlestown, W. Va.
Manne, Roy Egar ..... New Castle

Metcalf, Malcolm McMaughton .....Jamestown, N. Y.
Miller, Clarence Arthur .....Meadville
Miller, Earle French .....Pittsburgh
Mook, Harold Floyd .....Saegertown
Morrow, Thomas Dallas .....Cleveland, O.
Mulfinger, Carl Leonard .....Meadville
Mullian, Beatrice Maree .....Westford
Nebinger, Ruth Grove .....Homestead
Nelson, Lillian .....McKeesport
Newlin, Edwin Benson .....McKeesport
Nichols, Pierrepont H. .....Meadville
Norris, S. Evelyn .....Meadville
Palmer, Malcolm Rice .....Meadville
Pappenhagen, Louis .....Meadville
Park, Boyd Nelson, Jr. .....Franklin
Paulson, George M. .....Meadville
Paulson, Jehu DeWitt .....Meadville
Peck, Lottie Elizabeth .....Albion
Pilgram, Ralph Edward .....Hadley
Platt, Rose Alta .....Oil City
Quinn, Hannah Marie .....McKeesport
Reichel, Frank H. .....Saegertown
Reis, Lillian Morton .....Conneaut Lake
Reynolds, Caryl M. .....New Brighton
Ricker, George Albert .....Meadville
Robinson, Edward Alexander .....Sharpsburg
Sackett, Neal Cameron .....New Lyme, O.
Shaner, George A. .....Butler
Sherman, Joe Mac .....Conneaut Lake
Sherman, Ruth Sophia .....Cambridge Springs
Simpson, Margaret Mae .....New Brighton
Singley, Helen Josephine .....Meadville
Smith, Evelyn Whiting .....Meadville
Smith, Margaret Elizabeth .....Meadville
Smith, Theodore Fell .....Greenville
Smock, Jessie Bernice .....Meadville
Strauss, Charles Leonard .....Saegertown
Sutton, Edith Mildred .....Butler
Swanson, Marguerite Geraldine .....Meadville
Taylor, Harrie Smith .....Cambridge Springs

Thomas, Guy H. ..... Linesville
Walker, Mabel Elizabeth ..... Harbor Creek
Wasson, Harry Christopher ..... Meadville
Webster, Rex Duane ..... Avonia
Wells, Louis ..... Wellsville, O
Wiley, Sara Virginia ..... Elizabeth
Williams, Lee Leslie ..... Turtle Creek
Wing, Helen Kissick ..... New Castle
Witherup, Marion Lester ..... Franklin
Wolf, Charles R. ..... Connellsville
Yingling, Margaret Cadwell ..... Kittanning
Yocum, William Ward ..... Meadville

Freshmen, 130.

SPECIAL STUDENTS.

Cobern, Ernestine ..... Meadville
Cobern, Miriam ..... Meadville
Horn, Glenn D. ..... Garland
Swartley, Annette ..... Meadville
Swift, Carrie Ladds ..... Franklin
Wiard, Harry G. ..... Batavia, N. Y.

Special, 6.

SUMMARY.

	Men.	Women.	
Resident Graduates	4	2	6
Seniors	34	27	61
Juniors	45	32	77
Sophomores	53	36	89
Freshmen	79	51	130
Special	2	4	6
Total	217	152	369

DEGREES CONFERRED JUNE 21, 1911.

Doctor of Divinity.

Rev. John Howard Clemens. Rev. James Watson Campbell
Rev. Homer David Whitfield

Master of Arts.

Nellie Campbell Harry B. Mansell
Mary Nicholls

Civil Engineer.

Roy F. Shephard

Bachelor of Arts.

Mercedith Bankerd Allen
Florence Rosannah Bacon
Wendell Phillip Ball
T. Dudley Ballinger
John William Barkley
Mollie Arnett Bassett
Eva Josephine Beaver
Helen Margaret Bond
James Andrew Bortz
Una Katherine Duffy
Bessie Irene Emery
Harry Dewees Firestone
Clarence Conrad Fisher
Irvin Davis Ford
James Ward Frampton
Roland Jones George
Jennie Mary Goodrich
Leonard Clement Harris
Claire Egbert Hilborn
Gertrude Hillman
Paul Mansell Hillman
Ruth Root Kelly
Edwin Paul Kennedy
Walter LeRoy Kulp
Sarah Elizabeth MacKnight
Eleanor May Martin
Gilbert Wilcox Mead
Bessie May Metcalf
Friend Lee Mickle
Edna May Miller
John Harrison Moore
Melvin Everett Morse
Andrew Julius Nelson
Ida Florence Preston
Jesse Squibb Robinson
Lovina Belle Saeger
James Frank Sayre
Viola Hume Simpson
Walter Madison Small
Lillian La Verna Smith
Mary Smith
Irene Elizabeth Snearline
Anna Camden Sprouse
Ivan Reed Stidger
Robert Clark Stockdale
Oma Belle Stoner
Sarah Emeline Van Hoesen
Susanna Vosburgh

Verna Frances Lauffer
Lucy Evelyn Loane
Julia Jean Mackenzie
Harry Montgomery Weeter
Charles Mortland White
John Merrill White
Myra Adele Willson

Bachelor of Science.

Robert Weddell Bricker
Warren Bushnell Cole
Clarence Allen Copeland
William Benjamin Craig
Bruce William David
Walter Glenn Fife
Charles Claire Grant
Nelson Rist Moore
Arthur André Swanson

PHI BETA KAPPA.

ETA CHAPTER OF PENNSYLVANIA.

Chartered September 2, 1901.

OFFICERS.

President.

President William H. Crawford.

Vice President.

Hon. John J. Henderson.

Secretary.

Professor William A. Elliott.

MEMBERS INITIATED IN JUNE, 1911.

From the Senior Class.

John William Barkley
Mollie Arnett Bassett
Jennie Mary Goodrich
Ida Florence Preston
Jesse Squibb Robinson
Lovina Belle Saeger
James Frank Sayre
Mary Smith
Harry Montgomery Weeter
Charles Mortland White

From the Alumni.

James Watson Campbell, D.D., '93.

Malcolm Howard Dewey, A.M., '04.

Annual Address, June 19, 1911.

Professor Marion D. Learned, Ph.D., L.H.D.

Subject, "Racial Currents in American Literature."

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